Development Review Committee

Meeting Agenda
Wednesday, December 3, 2025
10:00 AM

City of Hesperia
Joshua Conference Room
9700 Seventh Avenue
Hesperia, CA 992345

REGULAR MEETING AGENDA
HESPERIA DEVELOPMENT REVIEW COMMITTEE
JOSHUA ROOM, 9700 SEVENTH AVE., HESPERIA, CA 92345

CALL TO ORDER - 10:00 a.m.

PROJECTS FOR CONDITIONS OF APPROVAL FOR DRC OF WEDNESDAY, DECEMBER 3, 2025.

1. **Page 1**

Project Number: SPR23-00024

Project Description:
Consideration of Site Plan Review SPR23-00024 to construct a 150,175 square foot industrial warehouse within the Commercial Industrial Business Park (CIBP) zone of the Main Street and Freeway Corridor Specific Plan on 11.01 gross acres located east of Caliente Road, approximately 890 feet south of Joshua Street, in conjunction with the adoption of an Addendum to the Hesperia Commerce Center Environmental Impact Report pursuant to the provisions of CEQA (Applicant: Caliente 395, LLC - Covington Group; APN: 3039-351-08)

Staff Person: Senior Planner Edgar Gonzalez

Attachments: Addendum 2 to HCC I EIR with Appendices
SPR23-00024 - Project Plans
SPR23-00024 - Draft Conditions of Approval

Addendum 2 to the Hesperia Commerce Center Environmental Impact Report

HCC I Lot 5 Project
(SCH No. 2012081016)

NOVEMBER 2025

Prepared for:

CITY OF HESPERIA
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B Biological Resources Technical Report
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D Paleontological Resources Inventory Memorandum
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F Infiltration Testing
G Noise Attachments
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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AAQS	ambient air quality standards
APN	Assessor's Parcel Number
BMP	best management practice
BSA	biological survey area
CAAQS	California Ambient Air Quality Standards
CAP	climate action plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CIBP	Commercial/Industrial Business Park
CO	carbon monoxide
CO2e	carbon dioxide equivalent
dBA	A-weighted decibel
DCP	dust control plan
DIF	Developer Impact Fees
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gas
HCC	Hesperia Commerce Center
HI	Hazard Index
HVAC	heating, ventilation, and air conditioning
ISO	International Organization for Standardization
Leq	energy equivalent noise level
Lmin	minimum sound level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MLD	Most Likely Descendant
MM	mitigation measure
MT	metric tons
NAAQS	National Ambient Air Quality Standards
NO2	nitrogen dioxide
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O3	ozone
PCE	passenger car equivalent

Acronym/Abbreviation	Definition
PM10	particulate matter with an aerodynamic diameter less than or equal to 10 microns in size
PM2.5	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size
PRIMP	paleontological resources impact mitigation program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCCIC	South Central Coastal Information Center
SVP	Society of Vertebrate Paleontology
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
VOC	volatile organic compound
WEAP	Worker Environmental Awareness Program
WQMP	Water Quality Management Plan

1 Introduction

This document is an addendum to the previously certified Environmental Impact Report (EIR) (State Clearinghouse No. 2012081016) for the City of Hesperia (City). This second addendum, along with the EIR and the first addendum, serves as the environmental review for the HCC I Lot 5 (Project), as required pursuant to the provisions of the California Environmental Quality Act (CEQA), California Public Resources Code Sections 21000 et seq., and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.).

1.1 The Hesperia Commerce Center Environmental Impact Report

The Hesperia Commerce Center (HCC) EIR was prepared to address the environmental impacts associated with the development of up to 34 industrial warehouses and office buildings and was certified by the Hesperia City Council in November 2013. The EIR found that potentially significant impacts related to air quality, biological resources, cultural resources, climate change (greenhouse gases), noise, and transportation/traffic could be mitigated to levels that are less than significant. However, the EIR determined that impacts related to air quality and climate change (greenhouse gas emissions) caused by the construction and operation of the Project could not be mitigated to levels that are less than significant, and therefore, these impacts were identified as significant and unavoidable. Accordingly, in approving and certifying the EIR, and consistent with CEQA Guidelines Sections 15091 and 15093 et al., the City made written findings and adopted a statement of overriding considerations that concluded that the benefits of related actions would outweigh its significant and unavoidable environmental impacts in the areas of air quality and climate change (greenhouse gas emissions).

The Project proposed a Conditional Use Permit (CUP11-10229) Tentative Parcel Map (TPM11-10230) to subdivide the property into 18 parcels, a Development Agreement between the City and Covington Capital, and a Water Supply Assessment to evaluate the availability of water to determine if there is a sufficient capacity to serve the proposed Project. Covington Capital (applicant) proposed to develop up to 34 industrial warehouse and office buildings with a total building area of up to 3.5 million square feet on a 232-acre site. The warehouse space would range from 3,267 square feet–1,090,050 square feet, with a total of 3,462,380 square feet. The office space would range from 900 square feet–27,130 square feet, with a total of 110,412 square feet. There would be a total of 2,516 parking spaces provided on the Project site.

A first addendum to the HCC EIR was prepared and approved in 2019, which consisted of a total of 3,287,360 square feet of industrial warehouse and office uses within three buildings, situated on approximately 216 acres of the previously approved project site. The first addendum to the HCC EIR included 13 Assessor's Parcel Numbers (APNs) of the previously approved project's 14 APNs, all except APN 3039-351-08 (the currently proposed Project). The Notice of Determination for this first addendum was filed on October 29, 2019.

As documented in this addendum, the Project would not result in any new or substantially more severe environmental impacts than those considered and addressed in the 2013 EIR.

Pursuant to the provisions of CEQA and the CEQA Guidelines, the City is the lead agency with the principal responsibility for deciding whether or not to approve the requested action. As part of the decision-making process,

the City is required to review and consider the potential environmental effects that could result from construction and operation of the Project.

1.2 Environmental Procedures

The EIR was prepared in conformance with CEQA Guidelines Section 15161.

Pursuant to Section 21166 of CEQA and Section 15162 of the CEQA Guidelines, if the lead agency determines that one or more of the conditions set forth under Section 15162 are met, a subsequent EIR or negative declaration shall be prepared for the Project.

Where none of the conditions specified in Section 15162 are present, the lead agency shall not prepare a subsequent or supplemental EIR (14 CCR 15162[a]), but may prepare a negative declaration, an addendum, or no further CEQA documentation. Section 15164 of the CEQA Guidelines states that an addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

In accordance with the CEQA Guidelines, the City has determined that an addendum to the Hesperia Commerce Center Draft EIR is the appropriate environmental document for the Project. This addendum analyzes the changes proposed by the Project and any pertinent changes to the circumstances under which the Project is undertaken that have occurred since the EIR was certified. It also analyzes any new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time that the EIR was certified. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required.

The environmental checklist form and analysis have been completed by the lead agency, the City. To ensure consistent impact comparisons, the checklist used for this analysis is the checklist that was in place at the time of the EIR in 2013. Although not required, an analysis of energy impacts has been completed within Appendix A, Air Quality, Greenhouse Gas, and Energy Technical Memorandum. Each environmental topic discussed in this addendum includes an overview of the impacts to the environment evaluated in the EIR, a comparison between this Project's effects on the environment and the effects evaluated in the EIR, and a determination whether the Project's physical effects on the environment are within the scope of those analyzed in the EIR. Where the EIR identified compliance with mitigation measures (MMs) as avoiding significant environmental effects, the applicability of such mitigation measures to the Project and their effect is described.

1.3 Environmental Documentation

This addendum relies on the environmental analysis in the Hesperia Commerce Center EIR. This addendum incorporates by reference the EIR and the technical analyses and documents that relate to the Project or provide additional information concerning the environmental setting of the Project.

The analysis disclosed in this addendum is based on the knowledge and expertise of the City's Community Development staff and the following technical studies and/or planning documents specific to the Project:

- City of Hesperia General Plan
- City of Hesperia Main Street and Freeway Corridor Specific Plan

- City of Hesperia Municipal Code
- Certified Program EIR for Hesperia Commerce Center (State Clearinghouse No. 2012081016) and the Associated Statement of Overriding Considerations
- Hesperia Commerce Center Mitigation Monitoring and Reporting Program
- Air Quality, Greenhouse Gas Emissions, and Energy Technical Memorandum
- Biological Resources Technical Report
- Cultural Resources Technical Report
- Paleontological Resources Technical Memorandum
- Geotechnical Investigation
- Infiltration Testing
- Noise Attachments
- Trip Generation Assessment

The technical studies/documents are available for review at the City of Hesperia Planning Department, 9700 Seventh Avenue Hesperia, California 92345.

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2 Project Description

2.1 Project Location

The approximately 12-acre Project site is generally bounded to the north by vacant land, to the south by San Bernardino County Fire Station 305 and vacant land, to the east by U.S. Highway 395, and to the west by Caliente Road and Building 1 of the HCC now occupied by Modway furniture wholesaler. It is located in the southwestern portion of the City (Figure 1, Project Location). The Project site is a vacant undeveloped property (Figure 2, Project Vicinity).

The Project site is designated by the General Plan Land Use Map as Main Street/Freeway Corridor Specific Plan - Commercial/Industrial Business Park (CIBP) Land Use; the City's Zoning Map identifies the site as Commercial/Industrial Business Park (CIBP). Figure 3 shows the General Plan Land Use designation and Figure 4 shows the zoning designation for the site.

2.2 Existing Setting

The Project site is currently vacant undeveloped property bound to the west by Building 1 of the Hesperia Commerce Center, now occupied by Modway furniture wholesaler, and Caliente Road, to the north by vacant land and a park-and-ride, to the east by U.S. Highway 395, and to the south by San Bernardino County Fire Station 305 and vacant land. The Project site is located within the Main Street and Freeway Corridor Specific Plan. According to the Main Street and Freeway Corridor Specific Plan, the land use and zoning designations for the Project site are Commercial/Industrial Business Park (CIBP) (Figure 3, General Plan Land Use and Figure 4, Zoning) (City of Hesperia 2010).

2.3 Proposed Changes to the Hesperia Commerce Center Environmental Impact Report

The currently proposed Project includes the construction of a 150,175 square feet of industrial warehouse building, inclusive of office space, situated on approximately 11.01 acres of the previously approved (2013 EIR) project site (Figure 5, Proposed Site Plan). The Project site is on one APN (3039-351-08) of the previously approved project's 14 APNs, while Addendum 1 of the EIR consisted of the remaining 13 APNs of the previously approved project.

Table 2-1 provides a basic comparison between the 2013 EIR, the 2019 Addendum 1 to the EIR, and the currently proposed Project.

Table 2-1. Project Comparison

	2013 EIR	2019 Addendum 1 to the EIR	Currently Proposed Project (Addendum 2 to the EIR)
Project Site Size	232 acres (gross)	216 acres (gross) (on same site of 2013 EIR)	12 acres (gross) (on same site of 2013 EIR)
Number of Parcels	14	13	1
Project Size	3,500,000	3,287,360	150,175

Table 2-1. Project Comparison

	2013 EIR	2019 Addendum 1 to the EIR	Currently Proposed Project (Addendum 2 to the EIR)
Number of Buildings	34	3	1
Land Use Mix	Industrial Warehouse and Office	Industrial Warehouse and Ancillary Office	Industrial Warehouse and Ancillary Office
Number of Phases	5	2	1

2.4 Project Characteristics

2.4.1 Project Components

The Project would include the construction of an industrial warehouse building and associated improvements on 11.01 acres of land. The proposed Project would provide 150,175 square feet of industrial/warehouse space, office space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, and landscape area. The 11.01-acre Project site is generally bounded to the north by vacant land, to the south by San Bernardino County Fire Station 305 and vacant land, to the east by U.S. Highway 395, and to the west by Caliente Road and Building 1 of the HCC now occupied by Modway furniture wholesaler. It is located in the southwestern portion of the City (Figure 1). The Project site is a vacant undeveloped property (Figure 2).

The Project site is designated by the General Plan Land Use Map as Main Street/Freeway Corridor Specific Plan - Commercial/Industrial Business Park (CIBP) Land Use; the City's Zoning Map identifies the site as Commercial/Industrial Business Park (CIBP). Figure 3 shows the General Plan Land Use designation and Figure 4 shows the zoning designation for the site.

The Project would include off-site improvements along Caliente Road including frontage landscaping. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

To account for the maximum potential disturbance associated with all on-site and off-site improvements, a maximum disturbance footprint has been developed within the Biological Technical Report (Appendix B). Areas in which lateral utility connections may occur or where other roadway and pedestrian improvements may be necessary are also depicted. Together, these off-site improvements are referred to as the "off-site street and utility improvements." Table 2-2 provides a summary of these improvements.

Table 2-2. Project Improvement Areas

Improvement Area	Project Components
Project Site	Industrial warehouse building totaling 150,175 square feet and associated on-site roadways, trailer/automobile parking, screening wall and landscaping (totaling 479,640 square feet)
Off-Site Street and Utility Improvements	Lateral connections for utilities

Note: See Figure 5, Proposed Site Plan.

Site Access, Circulation, and Parking

Access to the Project site would be provided by one driveway:

- Caliente Road West Driveway – 50 feet wide, full access (passenger cars and trucks) driveway

Consistent with Hesperia Fire Department access requirements, all Project driveways have been designed to allow for minimum turning radii. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. All gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas.

Paved passenger vehicle parking areas would be provided within areas west and south of the building, while tractor-trailer stalls and loading docks would be located east of the building. In total, the Project would provide approximately 35 loading dock positions, approximately 74 tractor-trailer stalls, and approximately 108 passenger vehicle parking spaces (including accessible).

Off-Site Roadway Improvements

The Project would include off-site improvements that include street improvements along the frontage of the Project on Caliente Road.

Utility Improvements

Given the vacant, undeveloped nature of the Project site, both wet and dry utilities, including domestic water, sanitary sewer, and electricity, would need to be extended onto the Project site. These utilities are described in detail below.

Domestic Water

Domestic water service would be provided by the Hesperia Water District Company. Within the immediate vicinity of the Project site, existing water lines include water lines within Caliente Road.

Sanitary Sewer

Sanitary sewer service would be provided by the Hesperia Water District. Within the immediate vicinity of the Project site, existing sewer lines include a gravity line starting east of U.S. Highway 395 in line with Caliente Road (to the west of the Project site).

Storm Drainage

A new engineered stormwater drainage system would be constructed on the east side of the Project site to collect and treat on-site stormwater. Post-development, stormwater flows would be captured on site and treated within an underground infiltration facility. Stormwater flows would be conveyed via sheet flows away from buildings and where possible, through below-grade, landscaped areas prior to entering the underground chamber. The landscaped areas would act as the first filter for detaining suspended solids in stormwater flows.

The Project and its new stormwater drainage system would capture and attenuate stormwater consistent with City and San Bernardino County stormwater requirements, including requirements in the San Bernardino County Hydrology Manual and Mojave Watershed Technical Guidance. In addition, it would attenuate flows beyond what is

required. Specifically, the Project's stormwater system has been designed such that it would retain and infiltrate the entire volume generated from a 100-year storm event, and no stormwater runoff would be released off site during this event.

Gas, Electric, and Telecommunication Facilities

Upgrades would be required with respect to electric power, natural gas, and telecommunication facilities (i.e., cable television services). These utilities would be part of a dry utility package that would be installed on site from their locations immediately fronting the Project site to provide service to the Project.

Architecture

The Project's design employs a variety of architectural strategies to create a contemporary, unified, and high-quality business park campus environment. Building facades would feature a complementary, neutral color palette and a variety of building materials, similar to other industrial development located throughout the City and region. Building elevations include vertical and horizontal elements that would break up the overall massing of the buildings.

In an effort to ensure that current and future development within the City is designed and constructed to conform to existing visual character and quality of the surrounding built environment, the City of Hesperia Development Code (Title 16 of the City's Municipal Code) includes design standards related to building size, height, floor area ratio, and setbacks, as well as landscaping, signage, and other development standards that have an effect on visual considerations. These design standards help adjacent land uses to be visually consistent with one another and their surroundings and reduces the potential for aesthetic conflict. The design specifications of all development proposals submitted to the City are reviewed for compliance with all applicable provisions set forth by the Development Code, and in the case of the Project (because it is subject to the Specific Plan), the provisions of the Specific Plan. As part of the City's development review process, the Project's architectural plans are reviewed by City staff and the planning commission to determine whether Project design conforms to the Development Code and Specific Plan and promotes the visual character and quality of the surrounding area.

Landscaping and Lighting Improvements

Landscaping is proposed for the passenger vehicle parking areas, around the portions of the building visible from off-site areas, and the site's frontages with Caliente Road. Landscaping along the site's frontages would include a mixture of trees, shrubs, and groundcover. Proposed trees include 24-inch box Chilean mesquite (*Prosopis chilensis*), desert willow (*Chilopsis linearis*), Afghan pine (*Pinus eldarica*), Chinese elm (*Ulmus parvifolia*), Chinese Pistache (*Pistacia chinensis*), and 36-inch box blue palo verde (*Cercidium 'Desert Museum'*).

The landscaping materials along the Project frontages incorporate a layering concept to provide different height trees and border or accent shrubs and low ground cover. Plant material is selected for low water and low maintenance. Landscaping is designed to be consistent with Section 16.20.610 of the City's Municipal Code.

Project lighting would feature a mix of pole-mounted and wall-mounted lighting fixtures. Consistent with Section 16.16.415 of the City's Municipal Code, exterior lighting would be located and designed to avoid direct glare onto adjacent properties and public rights-of-way.

Rooftop Solar

At a minimum, the roof of the Project's warehouse building would be designed to provide the structural capacity to accommodate rooftop solar panels. Additionally, the building would be equipped with rooftop solar panels to the extent feasible, with a capacity that matches the maximum allowed for distributed solar connections to the grid. As the capacity for solar connections increase, additional solar panels would be added to the Project.

Operational Characteristics

A tenant for the Project has not been identified, and the industrial warehouse building is considered speculative. Business operations would be expected to be conducted within the enclosed building, with the exception of the ingressing and egressing of trucks and passenger vehicles accessing the site, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading areas, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. It is anticipated that the facilities would be operated 24 hours a day, 7 days a week. Cold storage would not be permitted.

In general, the Project has been designed such that business operations would be conducted within the enclosed building, with the exception of traffic movement, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading areas, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. The outdoor cargo handling equipment used during loading and unloading of trailers (e.g., yard trucks, hostlers, yard goats, pallet jacks, forklifts) is expected to be non-diesel powered per contemporary industry standards. Within the gated truck court area, up to 74 trailers would be in designated trailer storage stalls. Additionally, the Project's office would support general office activities related to business operations.

2.4.2 Project Construction

For the purposes of analysis, it is assumed that construction of the Project would commence in or around January 2025 and conclude in February 2026[1], lasting approximately 13 months. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Demolition: 1 month (January 2025)
- Site preparation: 1 month (January 2025)
- Grading: 3 months (February 2025–May 2025)
- Building construction/utility installation: 9 months (May 2025–January 2026)
- Paving: 2 months (December 2025- end of January 2026)
- Application of architectural coating: 1 month (December 2025- January 2026)

Construction activities would include demolition, site preparation (e.g., vegetation clearing, grubbing, tree removal, discing), grading, building construction, paving, and architectural coating).

1 The analysis assumes a construction start date of January 2025, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Construction activities would generally occur across five phases: site preparation (e.g., vegetation clearing, grubbing, tree removal, discing), grading, building construction/utility installation, paving, and architectural coating. With the exception of architectural coating (which would only occur on the Project site), all phases would occur both on the Project site and within the off-site street and utility improvements.

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3 Initial Study Checklist

1 **Project title:**

HCC I Lot 5 Project

2. **Lead agency name and address:**

City of Hesperia
9700 Seventh Avenue
Hesperia, California 92345

3. **Contact person and phone number:**

Edgar Gonzalez, Senior Planner
City of Hesperia Planning Department
Phone: 760.947.1330
Email: egonzalez@cityofhesperia.us

4. **Project location:**

The 11.01-acre Project is located in the southwestern part of the City, which is within the Victor Valley region of San Bernardino County (Figure 1, Regional Location). The Project site is located south of vacant land and a park-and-ride, north of the San Bernardino County Fire Station 305 and vacant land, west of U.S. Highway 395, and east of Caliente Road and Building 1 of the Hesperia Commerce Center occupied by Modway furniture wholesaler. The Project consists of one parcel: Assessor's Parcel Number (APN) 3039-351-08-0000. Regional access to the Project site is provided via U.S. Highway 395 and I-15.

5. **Project sponsor's name and address:**

Caliente 395, LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

6. **General plan designation:**

Main Street/Freeway Corridor Specific Plan - Commercial/Industrial Business Park (CIBP)

7. **Zoning:**

Commercial/Industrial Business Park (CIBP)

8. **Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

The proposed Project is defined as the implementation of the Hesperia Commerce Center with a 150,175-square-foot warehouse/industrial building on APN 3039-351-08-0000 instead of the previously approved smaller industrial buildings with office space, as described in Chapter 2 of this Addendum.

9. **Surrounding land uses and setting (Briefly describe the project's surroundings):**

Land uses surrounding the Project site primarily consist of vacant land, public, and scattered commercial and industrial. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North:** Vacant land and a park-and-ride
- **South:** San Bernardino County Fire Station 305 and vacant land
- **East:** U.S. Highway 395
- **West:** Caliente Road and Building 1 of the Hesperia Commerce Center occupied by Modway furniture wholesaler

10. **Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):**

Implementation of the Project may require discretionary approvals by state and local agencies, such as the Regional Water Quality Control Board, Region 6V (Lahontan), and the City of Hesperia Fire Department for plan review.

Determination: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☒ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

Evaluation of Environmental Impacts:

Section 15161 of the CEQA Guidelines provides that when the lead agency adopts an EIR, subsequent activities in the program are examined in light of the EIR to determine whether an additional environmental document must be prepared. Pursuant to Section 21166 of CEQA and Section 15162 of the CEQA Guidelines, the lead agency shall not prepare a subsequent or supplemental EIR unless the agency determines that one or more of the following conditions are met for the Project:

1. Substantial project changes are proposed that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes would occur with respect to the circumstances under which the project is undertaken that require major revisions to the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified or the negative declaration was adopted shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    b. Significant effects previously examined will be substantially more severe than identified in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives; or
    d. Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

Where none of the conditions specified in Section 15162 are present, the lead agency cannot prepare a subsequent or supplemental EIR (CEQA Guidelines Section 15162(a)), but may prepare a negative declaration, an addendum, or no further CEQA documentation. Section 15164 of the CEQA Guidelines states that an addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

In accordance with the CEQA Guidelines, the City has determined that an Addendum to the EIR is the appropriate environmental document for the Project. This addendum reviews the changes proposed by the Project and any pertinent changes to the circumstances under which the Project is undertaken that have occurred since the EIR was certified. It also reviews any new information of substantial importance that was not known and could not have been known with exercise of reasonable diligence at the time that the EIR was certified. It further examines whether, as a result of any changes or any new information, a subsequent or supplemental EIR may be required. This examination includes an analysis of the provisions of Section 21166 of CEQA and Section 15162 of the CEQA Guidelines and their applicability to the Project.

3.1 Aesthetics

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
I. AESTHETICS –Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project have a substantial adverse effect on a scenic vista? (Less-than-Significant Impact)

b) Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings (Less-than-Significant Impact)

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less-than-Significant Impact)

Proposed Project Significance Determination

a) Would the project have a substantial adverse effect on a scenic vista?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with scenic vistas would occur.

The scenic vistas and scenic open spaces identified within the City's General Plan and Main Street/Freeway Corridor Specific Plan (Specific Plan) were identified as the Mojave River to the east, the San Bernardino and San Gabriel Mountain ranges to the south and the surrounding Victor Valley, along with neighboring

hillsides and valleys (City of Hesperia 2010, City of Hesperia 2021). Scenic vistas also include areas designated as potential park sites. The Project site is not located within any of these specified regions within the City.

City of Hesperia Municipal Code 16.24 finds that it is in the public interest to preserve and protect specified desert native plants, and according to the General Plan, the natural vegetation that occupies much of the City is an essential component of the visual landscape. Vegetative visual resources are most commonly protected through tree preservation ordinances that place limitations on the removal of such trees that are found to be native. Removal and relocation of native desert vegetation is further discussed in Section 3.4, Biological Resources.

Accordingly, there would be no new significant impacts to scenic vistas and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with scenic highways would occur. The EIR states that neither the California Department of Transportation (Caltrans) or the County of San Bernardino identify any designated or eligible scenic highways within the City or in its immediate vicinity.

I-15 and Highway 395 are the closest state highways to the Project site. However, according to the California Department of Transportation Scenic Highway Program, neither roadway has been designated as a state scenic highway. Furthermore, there are no highways that have been designated within the City. State Route 138 and State Route 173 are designated as Eligible State Scenic Highways, per the California State Highway System. The 3-mile segment of State Highway 138 that is designated as Eligible State Scenic Highway is located approximately 5.3 miles south of the Project site (Caltrans 2018). The approximately 2-mile segment of State Highway 173 that is designated as an Eligible State Scenic Highway is located 7 miles southeast of the Project site (Caltrans 2018). No portion of the Project would be visible from either of the two eligible state scenic highways. Therefore, similar to those impacts identified in the EIR, the Project would have no impacts associated with scenic resources within a state scenic highway and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with the existing visual character or quality of the site and its surroundings would be less than significant.

The Project would involve the construction of a 150,175-square-footindustrial warehouse building, inclusive of office space, situated on approximately 11.01 acres of the previously approved project site. Since the 2013 EIR, part of the previously approved project has been constructed adjacent to the currently proposed project. As such, the development of the Project site would not appear inconsistent with the visual character of the surrounding site. As discussed in the EIR, the Project would be required to be in compliance with the design standards outlined within the Specific Plan. Therefore, impacts associated with the existing visual character or quality of the site and its surroundings would be less than significant, and there would

be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with light and glare would be less than significant.

Current sources of light and glare at the Project site consist of streetlights, freestanding lights, building-mounted lights, illuminated signage, reflective building materials, and vehicular headlights. The Project would comply with General Plan Implementation Policy LU-3.5, which requires the separation or buffering of residential areas from businesses that produce noise, odors, high traffic volumes, light or glare, and parking through the use of landscaping, setbacks, and other techniques (City of Hesperia 2010). Title 16 of the City's Municipal Code, the Development Code, contains lighting standards, which ensure that new developments and expansions of existing developments will not have a negative impact upon surrounding land uses. Project lighting would feature a mix of pole-mounted and wall-mounted lighting fixtures. Consistent with Section 16.16.415 of the City's Municipal Code, exterior lighting would be located and designed to avoid direct glare onto adjacent properties and public rights-of-way.

Therefore, with compliance with the Development Code, impacts related to light and glare would be less than significant and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with aesthetics would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to aesthetics.

3.2 Agricultural Resources

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning for, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use? (No Impact)

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? (No Impact)

c) Would the project conflict with existing zoning for, or causing rezoning of forest land (as defined in Public Resources Code Section 12220 (g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? (No Impact)

d) Would the project result in the loss of forest land or conversion of forest land to non-forest land use? (No Impact)

e) Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? (No Impact)

Proposed Project Significance Determination

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with conversion of Important Farmland would occur.

According to the City of Hesperia General Plan, the majority of the land within the city limits is identified as "Grazing Land." Grazing land is land on which the existing vegetation is suited to the grazing of livestock. While the Grazing Land designation support agricultural related activities, it is unknown whether the property has ever been used for agricultural production or livestock grazing. Further, the Project site is within the Commercial/Industrial Business Park (CIBP) designation, which does not allow for the keeping of livestock. Therefore, no impacts associated with conversion of Important Farmland would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with agricultural zoning or Williamson Act contract would occur.

Areas under a Williamson Act Land Conservation Contract have a designation of Rural Residential Special District (RR-SD) in the General Plan. On the City of Hesperia General Plan land use map, areas under Williamson Act Contract have a designation of Special Development (SD) (City of Hesperia 2010). The land use and zoning designation for the Project site is Commercial/Industrial Business Park (CIBP). Therefore, no impacts associated with agricultural zoning or Williamson Act contract would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) ***Would the project conflict with existing zoning for, or causing rezoning of forest land (as defined in Public Resources Code Section 12220 (g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with the zoning of forest land, timber, or timberland would occur.

The Project site is located within the Commercial/Industrial Business Park designation of the City's Hesperia Main Street and Freeway Corridor Specific Plan. The proposed Project is consistent with the site's land use designations and zoning. Furthermore, the Project does not involve redesignation of forest land. Therefore, no impacts associated with zoning of forest land, timber, or timberland would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) ***Would the project result in the loss of forest land or conversion of forest land to non-forest land use?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with the loss or conversion of forest land would occur.

The Project site does not contain any forest land. Therefore, no impacts associated with the loss or conversion of forest land would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

e) ***Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with farmland conversion would occur.

No farmland, or areas zoned for agricultural use are located on the Project site or in the Project area. Because of the substantial distance between the Project site and any such agricultural areas, implementation of the Project would not result in conversion of off-site farmland. Therefore, no impacts associated with farmland conversion would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with agricultural resources would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to agriculture resources.

3.3 Air Quality

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) ***Would the project conflict with or obstruct implementation of the applicable air quality plan? (Less-than-significant impact with mitigation incorporated)***

The General Plan land use designation for the Project site is Specific Plan; the site is within the Main Street and Freeway Corridor Specific Plan and more precisely within the Commercial/Industrial Business Park (CIBP) District. The warehousing and office uses that would be developed under the Certified EIR are consistent with the land use designation specified under the General Plan and zoning specified in the Specific Plan. As such, development of the Project would be consistent with the growth forecasts included within the General Plan. In addition, the Project would comply with all the applicable Mojave Desert Air Quality Management District (MDAQMD) rules and regulations that relate to the construction and operation of the Project. Consequently, the Project is considered to not result in a significant impact in terms of conforming to MDAQMDs Rate of Progress Plan.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? (Significant and Unavoidable)

The Project site is located within the Mojave Desert Air Basin (MDAB) The MDAB includes the desert portions of Los Angeles, Kern, San Bernardino, and Riverside Counties. The Project is also located within the MDAQMD portion of the Western Mojave Desert ozone (O_3) nonattainment area (MDAQMD 2008), which includes the following San Bernardino County communities: Phelan, Hesperia, Adelanto, Victorville, Apple Valley, Barstow, Joshua Tree, Yucca Valley, and Twentynine Palms (the southwestern portion of the MDAQMD).

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides, particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (coarse particulate matter, or PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (fine particulate matter, or $PM_{2.5}$). VOCs and NO_x are important because they are precursors to O_3.

Regarding National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) attainment status,[2] the MDAB as a nonattainment area for federal and state O_3 standards and federal and state PM_{10} standards, and unclassifiable/attainment for all other criteria air pollutants (EPA 2021; CARB 2021) standard.

As shown under Threshold c) below, the Project would exceed the MDAQMD significance thresholds for construction for VOCs, NO_x, CO, and PM_{10} during construction and operation. Because the MDAB is nonattainment for O_3 and PM_{10}, the Certified EIR would contribute substantially to an existing air quality violation. No mitigation was identified to reduce impacts below levels of significance. Impacts are considered significant and unavoidable.

c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)? (Significant and Unavoidable)

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and MDAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

The maximum daily construction emissions with mitigation are shown in Table 3-1 below for the Certified EIR.

[2] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the Environmental Protection Agency (EPA) and California Air Resources Board (CARB), respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards.

Table 3-1. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Certified EIR

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
2013	47.80	259.34	487.60	0.77	73.58	24.37
2014	462.72	644.56	737.36	1.43	1,558.24	38.79
2015	457.78	606.09	695.13	1.43	1,556.71	37.26
Maximum	**462.72**	**644.56**	**737.36**	**1.43**	**1,558.24**	**38.79**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
Emissions include compliance with MDAQMD Rules 403.
Source: URS 2013.

As shown in Table 3-1, maximum daily emissions during construction from the Certified EIR exceeded the MDAQMD thresholds for VOC, NO_x, CO, and PM_{10}. Emissions during construction are significant and unavoidable.

Operational emissions from the Certified EIR are shown in Table 3-2.

Table 3-2. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions – Certified EIR

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	126.30	0.00	0.00	0.00	0.00	0.00
Energy	0.24	2.15	1.81	0.01	0.16	0.16
Mobile	94.43	519.84	938.98	1.36	141.72	24.25
Total	**220.97**	**521.99**	**940.79**	**1.37**	**141.88**	**24.41**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
Totals may not sum due to rounding.
Source: URS 2013.

Emissions during operation of the Certified EIR would exceed the MDAQMD significance thresholds for VOC, NO_x, CO, and PM_{10}. No feasible mitigation was identified and therefore impacts were considered significant and unavoidable.

d) Would the project expose sensitive receptors to substantial pollutant concentrations? (Less-than-Significant Impact)

Local Carbon Monoxide Concentrations

The proposed Project would involve the generation of truck trips from the proposed warehouse component of the Project. Based on the Project's traffic study, it is estimated that there would be 10,964 daily vehicle trips, 958 AM peak hour trips, and 927 PM peak hour trips be generated by the proposed Project (URS 2013). A CO hotspots modeling analysis was performed using the CALINE4 and showed that the studies intersections would not exceed the on1-hour or 8-hour CO ambient air quality standard and therefore would not create a CO hotspot. Impacts would be considered less than significant.

Toxic Air Contaminants

Sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities. The applicable screening distance for the proposed Project is whether a distribution center with 40 or more trucks per day would be operational within 1,000 feet of a sensitive receptor.

The proposed Project would involve the generation of truck trips from the proposed warehouse component of the Project. Based on the Project's traffic study, it is estimated that 246 AM peak hour truck trips and 234 PM peak hour truck trips would be generated by the proposed Project. The nearest sensitive receptor (residences) to the Project site's truck parking lot is approximately 1,800 feet to the southeast. The nearest residence to the east of the Project site is located approximately 1,500 feet and is further separated by the I-15 freeway. This distance between sensitive receptors and the proposed Project exceeds the screening distance of 1,000 feet used by the MDAQMD for distribution centers. This distance allows the dispersion of air pollutants such that it will not result in a significant air quality impact to local sensitive receptors. Rural estate residential uses are allowed on vacant parcels adjacent to the Project site, along the western boundary where an 'open space' remainder parcel is identified for the Project that will be used for storm water detention and shall also include a drainage easement. A conservation easement will also be recorded, to allow for future recreational trail purposes. As such, the proposed Project would not expose existing or future sensitive receptors to substantial pollutant concentrations.

e) Would the project create objectionable odors affecting a substantial number of people? (No determination)

The previously certified EIR did not evaluate whether the project would result in other emissions adversely affecting a substantial number of people.

Proposed Project Significance Determination

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Substantial Change from Previous Analysis. Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. A project is non-

conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to comply with the applicable air quality plan (MDAQMD 2020).

The Project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited to Rules 401 (Visible Emissions), 402 (Nuisance), and 403 (Fugitive Dust Control for the Mojave Desert Planning Area). According to the City's Main Street Freeway Corridor Specific Plan, the land use designation and zoning for the Project site is Commercial/Industrial Business Park (CIBP). This zone is intended to provide for service commercial, light industrial, light manufacturing, and industrial support uses, mainly conducted in enclosed buildings, which will produce only a small environmental impact, such as noise, vibration, air pollution, glare, or waste disposal. Permitted uses in this designation include commercial storage facilities, manufacturing, outdoor storage, and warehousing and wholesale distribution centers (200,000 square feet or less) (City of Hesperia 2021). Since the Project site is under this designation and zoning, the proposed warehouse facility less than 200,000 square feet would be consistent with the City's Main Street Freeway Corridor Specific Plan and General Plan. Therefore, the Project would not conflict with the underlying land use assumptions assumed in the particulate matter and Ozone Attainment plans and impacts would be less than significant.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

No Substantial Change from Previous Analysis. The Project site is located within the MDAB. The MDAB includes the desert portions of Los Angeles, Kern, San Bernardino, and Riverside Counties. The Project is also located within the MDAQMD portion of the Western Mojave Desert O_3 nonattainment area (MDAQMD 2008), which includes the following San Bernardino County communities: Phelan, Hesperia, Adelanto, Victorville, Apple Valley, Barstow, Joshua Tree, Yucca Valley, and Twentynine Palms (the southwestern portion of the MDAQMD).

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases), NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. VOCs and NO_x are important because they are precursors to O_3.

Regarding NAAQS and CAAQS attainment status,[3] the MDAB as a nonattainment area for federal and state O_3 standards and federal and state PM_{10} standards, and unclassifiable/attainment for all other criteria air pollutants (EPA 2021; CARB 2021) standard.

[3] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the Environmental Protection Agency (EPA) and California Air Resources Board (CARB), respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards.

As shown under Threshold c) below, the Project would not exceed the MDAQMD significance thresholds during construction and operation and would result in fewer emissions that the Certified EIR. Impacts are considered less than significant.

c) ***Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?***

No Substantial Change from Previous Analysis. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and MDAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road vendor trucks, haul trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

The CalEEMod Version 2022 was used to estimate emissions from construction of the Project. Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The Project would be required to comply with MDAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. The CalEEMod default assumptions were used for estimating fugitive dust emissions from grading on site. The Project would involve application of architectural coating (e.g., paint and other finishes) for painting the interior and exterior of the building as well as parking lot striping. Table 3-3 presents the estimated maximum daily construction emissions generated during construction of the Project. Details of the emission calculations are provided in Attachment A.

Table 3-3. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Project

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
Summer						
2025	3.31	29.91	30.02	0.06	10.74	4.86
2026	N/A	N/A	N/A	N/A	N/A	N/A

Table 3-3. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Project

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per day					
Winter						
2025	35.45	54.29	52.11	0.08	22.46	12.33
2026	35.32	19.32	29.10	0.05	2.19	1.03
Maximum	**35.45**	**54.29**	**52.11**	**0.08**	**22.46**	**12.33**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = not applicable; MDAQMD = Mojave Desert Air Quality Management District.
Emissions include compliance with MDAQMD Rules 403.
See Attachment A for complete results.

As shown in Table 3-3, Project construction would not exceed MDAQMD's daily thresholds. Therefore, construction impacts associated with criteria air pollutant emissions would be less than significant and less than that evaluated in the Certified EIR.

Operational Emissions

Emissions from the operational phase of the Project's land uses were estimated using CalEEMod. Table 3-4 presents the maximum daily area, energy, mobile, off-road, and stationary source emissions associated with operation of the Project in year 2026. The values shown are the maximum summer or winter daily emissions (i.e., worst-case) results from CalEEMod. Details of the emission calculations are provided in Attachment A.

Table 3-4. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions – Project

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
Area	4.52	0.05	6.52	0.00	0.01	0.01
Energy	0.04	0.77	0.64	0.00	0.06	0.06
Mobile	0.87	8.31	14.34	0.10	5.31	1.49
Offroad	0.28	16.66	151.61	0.01	0.06	0.06
Stationary	0.25	0.69	0.89	0.00	0.04	0.04
Total	**5.97**	**26.48**	**174.02**	**0.12**	**5.48**	**1.66**
Winter						
Area	3.45	N/A	N/A	N/A	N/A	N/A
Energy	0.04	0.77	0.64	0.00	0.06	0.06
Mobile	0.78	8.78	10.18	0.10	5.31	1.49
Offroad	0.28	16.66	151.61	0.01	0.06	0.06
Stationary	0.25	0.69	0.89	0.00	0.04	0.04
Total	**4.81**	**26.90**	**163.33**	**0.11**	**5.46**	**1.65**

Table 3-4. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions – Project

Emissions Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; N/A = not applicable; MDAQMD = Mojave Desert Air Quality Management District.
Totals may not sum due to rounding.
See Attachment A for complete results.

As shown in Table 3-4, the increase in criteria air pollutant emissions associated with Project operations would not exceed MDAQMD's significance thresholds and, therefore, operational impacts associated with criteria air pollutant emissions would be less than significant. Emissions during operation of the Project would also be less than that in the Certified EIR.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

No Substantial Change from Previous Analysis.

Local Carbon Monoxide Concentrations

Mobile source impacts occur on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase vehicle miles traveled within the local airshed and the MDAB. Locally, Project-generated traffic would be added to the roadway system near the Project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds and operates on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. However, because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the MDAB is steadily decreasing.

The MDAQMD thresholds of significance for local CO emissions is the 1-hour and 8-hour CAAQS of 20 ppm and 9 ppm, respectively. By definition, these represent levels that are protective of public health. As noted previously, the MDAB is currently designated attainment for both state and national CO ambient air quality standards, and the Town of Apple Valley typically experiences low background CO concentrations.

As described in Appendix A, to verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation was conducted comparing the highest hourly traffic volumes at any studied intersection in proximity to the Project site to the 100,000 vehicles per day criterion from the South Coast Air Quality Management District Air Quality Management Plan (SCAQMD 2003). The Project would generate 257 daily vehicle trips, 37 AM peak hour passenger car equivalent (PCE) trips, and 38 PM peak hour PCE trips, and therefore falls below the City's level of service (LOS) traffic study thresholds. As the Project's daily and peak traffic is substantially less than that studied in the Certified EIR and the Certified EIR traffic did not generate a CO hotspot, it is anticipated the Project would therefore not generate a CO hotspot. Therefore, impacts associated with CO hotspots would be less than significant.

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (immediate) and/or chronic (cumulative) non-cancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

The MDAQMD has established a procedure for evaluating localized impacts from development projects. Localized impacts are addressed through significance thresholds, which states "Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in cancer risk greater than or equal to 10 parts per million and/or a Hazard Index (HI) (noncancerous) greater than or equal to 1." The MDAQMD has provided screening distances for which localized impacts are not expected to cause a significant negative impact upon sensitive receptors.

Project construction would result in emissions of diesel particulate from heavy construction equipment and trucks accessing the site. Diesel particulate is characterized as a TAC by the State of California. The Office of Environmental Health Hazard Assessment has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure but has not identified health effects due to short-term exposure to diesel exhaust. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the Project. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. Due to this relatively short period of exposure (13 months) and minimal particulate emissions on site, TACs generated by the Project would not result in concentrations causing significant health risks. Overall, the Project would not result in substantial TAC exposure to sensitive receptors in the vicinity of the Project, and impacts would be less than significant.

While the Project would result in more than 40 trucks per day during operation, it would be located further than 1,000 feet from the closest sensitive receptor. As such, no formal health risk assessment is required in accordance with MDAQMD guidance and impacts would be less than significant during operation.

Health Effects of Criteria Air Pollutants

Construction and operation of the Project would result in emissions that would not exceed the MDAQMD thresholds for criteria air pollutants.

Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue. VOCs and NO_x are precursors to O_3, for which the MDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the MDAB due to O_3 precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative. That being said, because the Project would not exceed the MDAQMD VOCs and NO_x thresholds during Project operations, the Project would not contribute to health effects associated with O_3.

Health effects associated with NO_x and nitrogen dioxide (NO_2) (which is a constituent of NO_x) include lung irritation and enhanced allergic responses. Because the MDAB is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_x) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards, it is not anticipated that the Project would cause an exceedance of the NAAQS and CAAQS for NO_2 or result in potential health effects associated with NO_2 and NO_x. Therefore, because the Project would not exceed the MDAQMD NO_x threshold during Project operations, the Project would not contribute to health effects associated with NO_x and NO_2.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness. CO tends to be a localized impact associated with congested intersections. The potential for CO hotspots is discussed under the subsequent impact criterion below and determined to be less than significant. Furthermore, the Project will not exceed CO emissions thresholds during operation. Thus, the Project's CO emissions would not contribute to significant health effects associated with CO.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease. Operation of the Project would not exceed the MDAQMD threshold for PM_{10}. Because the Project does not emit substantial particulate matter during operation, the Project would not result in associated health effects.

In summary, operation of the Project would not result in exceedances of the MDAQMD significance thresholds, and the Project would not potentially result in health effects associated with these pollutants. Because operation of the Project would not exceed the MDAQMD thresholds, and because the MDAQMD thresholds are based on levels that the MDAB can accommodate without affecting the attainment date for the AAQS and the AAQS are established to protect public health and welfare, the Project is not anticipated to result in health effects

associated with criteria air pollutants. Therefore, similar to those impacts identified in the EIR, the Project would not have a significant impact related to health effects, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

e) Would the project create objectionable odors affecting a substantial number of people?

No Substantial Change from Previous Analysis. Land uses most commonly associated with odor complaints generally include agricultural uses (livestock and farming), wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The Project does not include uses that would be substantive sources of objectionable odors. Potential temporary and intermittent odors may result from construction equipment exhaust, the application of asphalt, and architectural coatings. Temporary and intermittent construction-source emissions are controlled through existing requirements and industry Best Management Practices addressing proper storage of and application of construction materials.

The Project would also be required to comply with MDAQMD Rule 402 (Nuisance). Rule 402 provides that "[a] person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property" (MDAQMD 1976). Based on the preceding, the potential for the Project to create objectionable odors affecting a substantial number of people would be less than significant. The previous EIR did not analyze odors, therefore, no new or more severe impacts associated with odors would occur.

Conclusion

In conclusion, no new or more severe impacts associated with air quality would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR required the following applicable mitigation measures related to air quality, which remain applicable:

AQ-1: Prior to project site construction activities, and prior to issuance of grading permits for each phase of the project, a dust control plan shall be submitted to, and verified by, the City's Building Division. The dust control plan shall identify actions that the property owner and/or the project contractor shall utilize to reduce on- and off-site dust production consistent with MDAQMD guidelines. Dust control mitigation measures for the project shall include:

- A Dust Control Plan shall be included as a component within the Storm Water Pollution Prevention Plan (SWPPP) and erosion control plan through the civil plans submitted to and approved by the Engineering Department and the grading plans submitted to and approved by both the Engineering and the Building Division prior to the start of construction activities.

- Disturbed Areas: The construction contractor shall effectively stabilize for fugitive dust control all disturbed areas that are not being actively used for construction purposes or use water or nontoxic chemical stabilizers/suppressants.
- Storage Piles: The construction contractor shall apply water or nontoxic chemical stabilizers/ suppressants for fugitive dust control, or cover storage pules with a tarp or other suitable cover or vegetative ground cover. Following the addition of materials or the removal of materials from the surface of outdoor storage piles, said piles shall be effectively stabilized for fugitive dust emissions, using sufficient water or nontoxic chemical stabilizer/suppressant.
- Unpaved Roads: The construction contractor shall effectively stabilize for fugitive dust control all on-site unpaved roads and off-site unpaved roads using water or nontoxic chemical stabilizers/suppressants.
- General Watering: The construction contractor shall control fugitive dust emissions during land clearing, grubbing, scaping, excavation, land leveling, grading, cut and fill, and demolition activities by watering the construction site a minimum of two times daily when soil conditions are dry.
- Dirt Hauls: When materials are transported off-site, the construction contractor shall ensure that all material is covered or effectively wetted to limit visible dust emissions, and at least 24 inches of freeboard space from the top of containers shall be maintained.
- Dirt Carryout/Trackout: The construction contractor shall install and maintain an approved carryout and trackout prevention procedure (e.g., grizzlies, gravel pads, paved interior roads) at the construction ingress/egress. The construction contractor shall remove mud or dirt that has accumulated on adjacent public streets at the end of each workday. In addition, carryout/trackout shall be immediately removed when it extends 50 feet or more beyond the site exit. Carryout/trackout shall be removed by manually sweeping, using a rotary brush broom accompanied or preceded by sufficient wetting, operating a PM10-efficient street sweeper with a minimum pick-up efficiency of 80 percent, or flushing with water if curbs or gutters are not present and where the use of water will not be a source of trackout material or result in adverse impacts on stormwater drainage systems.
- Unpaved Road Speeds: The construction contractor shall limit traffic speeds on unpaved roads to 15 mph.
- Erosion Control: The construction contractor shall install gravel bags or other erosion-control measures to prevent silt runoff to public roadways from sites with a slope greater than one (1) percent during ground-disturbing activities.
- High Winds: The construction contractor shall suspend excavation and grading activity when wind exceed 20 miles per hour.
- Continuously mist the work area.
- Install wind barriers around the work area.
- Clean or decontaminate equipment and vehicles to ensure that no equipment or workers track soil out of the work area (a gravel pad, tire shaker, or wheel wash system may be used to clear soil from vehicles).

AQ-2: During grading and construction activities, the property owner or project contractor shall submit a signed 'Construction Materials and Equipment Report' once every 3 months to the City Building Division. To mitigate impacts upon air quality, this report shall document the past 3 months'

performance, the planned performance for the next 3 months and certify property owner and project contractor compliance with the following:

- Construction materials shall be received during off-peak travel periods, between 8:30 a.m. and 4:00 p.m. A written explanation for any non-compliance shall be submitted by the offending party to the City Building and Planning Divisions.
- Lane closures and detours shall be limited to off-peak travel periods between 8:30 a.m. and 4:00 p.m. whenever possible.
- Verification by the property owner or project contractor that the construction equipment on the project site during the preceding 3 months, that is currently on the site, and that is anticipated to be on the site during the next 3 months. The property owner or project contractor shall certify that all such equipment have been selected for use based on low emission and high-energy efficiency factors, including that such equipment has received a tune-up (or equivalent work) to assure low NO_x emissions within 6 months preceding delivery to the project site, and at least once a year thereafter.

3.4 Biological Resources

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Less-than-Significant Impact with Mitigation Incorporated)

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (No Impact)

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (No Impact)

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (Less-than-Significant Impact with Mitigation Incorporated)

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less-than-Significant Impact with Mitigation Incorporated)

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)

Proposed Project Significance Determination

The following analysis relies on the Biological Resource Technical Report prepared by Dudek in July 2024, included as Appendix B. The assessment included a field reconnaissance and review of the latest available relevant literature, published research, and maps on soils, hydrology, wetlands, and special-status species distributions to determine those resources that have the potential to occur within approximately 100 feet of the Project site (i.e., the study area).

a) ***Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

No Substantial Change from Previous Analysis. The EIR found that impacts to special-status species would be less than significant with implementation of MM-BIO-1, MM-BIO-2, and MM-BIO-3.

Special-Status Plants

Direct Impacts

No non-listed special-status plant species were observed or have high or moderate potential to occur within the biological survey area (BSA); therefore, the Project would have no direct or indirect impacts to non-listed special-status plant species. In addition, the BSA does not occur within federally designated critical habitat for special-status plant species, and there would be no direct impacts to critical habitat.

One listed special-status plant species was observed within the BSA: western Joshua tree.

Western Joshua Tree

Western Joshua tree, a candidate for state listing under the California Endangered Species Act, was observed and would be directly impacted by the Project. Based on the site plan, implementation of the Project would result in direct impacts to 35 western Joshua tree individuals from construction activities (Figure 6, Noise Measurement and Modeling Locations). All ground-disturbing activities are considered permanent impacts to western Joshua trees. Direct impacts to western Joshua tree are considered significant absent mitigation under CEQA.

As required by **Mitigation Measure (MM) BIO-2** (Desert Native Plants and Joshua Trees), mitigation for direct impacts to 35 western Joshua trees, their seed bank, and associated habitat will be fulfilled through conservation of western Joshua trees through a payment of fees consistent with the Western Joshua Tree Conservation Act or through payment to a mitigation bank approved by the California Department of Fish and Wildlife (CDFW). In addition, implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to a less-than-significant level.

Implementation of **MM-BIO-2** (Desert Native Plants and Joshua Trees) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to western Joshua trees to less than significant.

Indirect Impacts

No western Joshua trees were found within 50 feet of the Project footprint. Thus, the Project would not result in indirect impacts to western Joshua trees outside of the construction footprint.

Special-Status Wildlife

Direct Impacts

Direct impacts could potentially occur to special-status wildlife species from impacts to habitat and impacts to the species from injury or mortality of individuals due to construction activities within the Project site.

The Project could result in significant, direct impacts to three special-status wildlife species—loggerhead shrike, burrowing owl, and Crotch's bumble bee—and nesting migratory birds and raptors; therefore, these species are further discussed below.

Loggerhead Shrike

Loggerhead shrike was observed during the biological resource surveys. Extensive suitable nesting habitat, particularly western Joshua trees, is present within the BSA.

The Project would result in the loss of 4.52 acres of suitable habitat for loggerhead shrike, including impacts to buckhorn cholla/big galleta grass scrub and rubber rabbitbrush scrub and removal of individual western Joshua trees. These potential direct impacts to loggerhead shrike are considered significant absent mitigation under CEQA.

To avoid potential impacts to nesting loggerhead shrike, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in **MM-BIO-1** (Pre-Construction Surveys).

As required by **MM-BIO-2** (Desert Native Plants and Joshua Trees), mitigation for direct impacts to 35 western Joshua trees will be fulfilled through payment of applicable fees consistent with the Western Joshua Tree Conservation Plan or through payment to a CDFW-approved mitigation bank. The fees will contribute to conservation of western Joshua tree, which will also provide habitat for loggerhead shrike. Thus, mitigation for impacts to western Joshua tree will also mitigate for impacts to loss of suitable habitat for loggerhead shrike.

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-2** (Desert Native Plants and Joshua Trees) would reduce potential direct impacts to loggerhead shrike to less than significant.

Burrowing Owl

Focused surveys were not conducted due to the lack of suitable burrows with openings 4 inches or greater during the initial biological site visit and desert tortoise survey. However, marginal habitat exists on site and burrowing owl is a transient species; therefore, the species could potentially occupy the BSA prior to construction.

Pursuant to the California Fish and Game Code and the Migratory Bird Treaty Act (MBTA), a pre-construction survey in compliance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) would be necessary to reevaluate the locations of potential burrowing owl burrows located within the Project limits so take of owls or active owl nests can be avoided. Consistent with **MM-BIO-1** (Pre-Construction Surveys), a pre-construction survey for burrowing owl shall be conducted in areas supporting potentially suitable habitat within 14 days prior to the start of construction activities. In addition, implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to a less-than significant level.

To avoid potential impacts to nesting burrowing owl, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in **MM-BIO-1** (Pre-Construction Surveys).

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to burrowing owl to less than significant.

Nesting Migratory Birds and Raptors

Similar to most other sites containing trees, shrubs, and other vegetation, the BSA contains opportunities for birds of prey (raptors) and other avian species to nest on site. Native nesting bird species with potential to occur within the BSA are protected by California Fish and Game Code Sections 3503 and 3503.5 and by the federal MBTA (16 United States Code 703–711). Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Currently, California considers any nest that is under construction or modification or is supporting eggs, nestlings, or juveniles as “active.” Therefore, impacts to nesting migratory birds and raptors would be considered significant absent mitigation under CEQA.

To ensure compliance with the California Fish and Game Code and MBTA and to avoid potential impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31, depending on the species). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in **MM-BIO-1** (Pre-Construction Surveys). With the incorporation of **MM-BIO-1** (Pre-Construction Surveys), impacts associated with nesting birds, including raptors, would be less than significant.

Indirect Impacts

Indirect impacts to special-status wildlife species are those that occur during construction to species present near the site but not within the construction zone. These include fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat or that can result in disruption of bird nesting and abandonment of nests; increased human presence, which can also disrupt daily activities of wildlife and cause them to leave an area; night-time lighting, which can disrupt the activity patterns of

nocturnal species, including many mammals and some birds, amphibians, and reptiles; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery.

The Project site could result in significant, indirect impacts to three special-status wildlife species—loggerhead shrike, burrowing owl, and Crotch's bumble bee—and nesting migratory birds and raptors; therefore, these species are further discussed below.

Loggerhead Shrike

Construction activities have the potential to result in indirect impacts to loggerhead shrike and their habitat. Those impacts could include dust, noise and vibration, increased human presence, vehicle collisions, chemical spills, and night-time lighting. These potential short-term or temporary indirect impacts to loggerhead shrike are considered significant absent mitigation under CEQA.

Post-construction (long-term) activities have the potential to result in indirect impacts to loggerhead shrike and their habitat. Those long-term impacts could result from development within or adjacent to loggerhead shrike habitat including night-time lighting and increased invasive plant species that may degrade habitat. These potential long-term indirect impacts to loggerhead shrikes are considered significant absent mitigation under CEQA.

MM-BIO-1 (Pre-Construction Surveys) would require nesting bird surveys and would result in establishment of construction buffers around nests, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, night-time lighting, and vehicle collisions. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that all workers complete a Worker Environmental Awareness Program (WEAP) training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the MDAQMD's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction. **MM-BIO-3** (Designated Biologist and Best Management Practices) would additionally require night-time lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Potential long-term indirect impacts that could result from development within or adjacent to loggerhead shrike habitat include night-time lighting and increased invasive plant species that may degrade habitat. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php).

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to loggerhead shrike to less than significant.

Burrowing Owl

No burrowing owl or suitable burrowing owl burrows were observed within the BSA during the biological reconnaissance. However, marginal suitable habitat exists on site, and burrowing owls may colonize an area quickly and could potentially occupy the BSA prior to construction. A pre-construction survey is needed to confirm their absence prior to construction. Should burrowing owls occur on site, construction activities have the potential to result in indirect impacts to burrowing owls and their habitat. Those impacts could include dust, noise and vibration, trash and debris, increased human presence, vehicle collisions, chemical spills, and night-time lighting. These potential short-term or temporary indirect impacts to burrowing owls are considered significant absent mitigation under CEQA.

Post-construction (long-term) activities have the potential to result in indirect impacts to burrowing owls and their habitat. Those long-term impacts could result from development within or adjacent to burrowing owl habitat including night-time lighting and increased invasive plant species that may degrade habitat. These potential long-term indirect impacts to burrowing owls are considered significant absent mitigation under CEQA. As burrowing owls are considered absent until further confirmation from pre-construction surveys, impacts to burrowing owls associated with the Project and BSA would be less than significant under CEQA.

MM-BIO-1 (Pre-Construction Surveys) would require pre-construction burrowing owl surveys and result in establishment of construction buffers around any burrowing owl burrows found, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, night-time lighting, and vehicle collisions. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the MDAQMD's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction. **MM-BIO-3** (Designated Biologist and Best Management Practices) would additionally require night-time lighting during construction within 50 feet of habitat for special-status species to be shielded downward. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also require trash and debris to be removed regularly and would require animal-resistant trash receptacles to avoid attracting urban-related, predator species.

Potential long-term indirect impacts that could result from development within or adjacent to burrowing owl habitat include night-time lighting and increased invasive plant species that may degrade habitat. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require night-time lighting during operations within 50 feet of habitat for special-status species to be shielded downward. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also require that landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's California Invasive Plant Inventory (http://www.cal-ipc.org/ip/inventory/index.php).

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to burrowing owl to less than significant.

Nesting Migratory Birds and Raptors

Construction activities have the potential to result in indirect impacts to nesting migratory birds and raptors and their habitats. Those impacts could include the loss of a nest through increased dust, noise and vibration, increased human presence, and night-time lighting. These potential short-term or temporary indirect impacts to these species are considered significant absent mitigation under CEQA.

To ensure compliance with the California Fish and Game Code and MBTA and to avoid potential indirect impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31, depending on the species). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal (**MM-BIO-1** [Pre-Construction Surveys]). Indirect impacts, including increased dust, noise, and vibration, increased human presence, and night-time lighting, will be offset through implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices), which would require night-time lighting during construction within 50 feet of habitat for special-status species to be shielded downward. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the MDAQMD's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction.

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to nesting migratory birds and raptors to less than significant.

Conclusion

Impacts of the proposed Project are considered less than significant with mitigation incorporated, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) ***Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with sensitive vegetation communities would occur.

Direct Impacts

A total of 12.14 acres, including 11.01 acres within the Project site and 1.13 acres within the off-site improvement area, would be permanently impacted by the Project. As stated in Section 5.1 of Appendix B, Vegetation Communities and Land Covers, CDFW state rankings of 1, 2, or 3 are considered high priority for inventory or special-status, and impacts to these communities typically require mitigation. No sensitive vegetation communities or land cover types were found within the BSA; vegetation communities and land cover types within the BSA include buckhorn cholla/big galleta grass scrub, rubber rabbitbrush scrub, non-

native grassland, and urban/developed lands. Therefore, no direct impacts to sensitive vegetation communities are anticipated to occur.

Indirect Impacts

No sensitive vegetation communities occur within the 100-foot buffer of the BSA, as stated in Appendix B. Thus, no indirect impacts to sensitive vegetation communities are anticipated to occur, and no additional measures are recommended.

Conclusion

Therefore, impacts to sensitive vegetation communities would not occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) ***Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with federally protected wetlands would occur.

Direct impacts to 0.23 acres of jurisdictional aquatic resources would occur with Project implementation. For direct impacts to 0.23 acres of waters and streams that are regulated under the California Porter–Cologne Water Quality Control Act and California Fish and Game Code, permits would be required from each of the regulatory agencies; this typically entails providing mitigation to offset the impacts to and loss of beneficial uses and functions and values of the jurisdictional waters and habitats. The Project would be required to obtain permits from each of the regulatory agencies. A waste discharge report would be required for impacts to waters of the state, and a Streambed Alteration Agreement would be required for impacts to jurisdictional streambed.

The Project site supports aquatic resources that are jurisdictional under the Regional Water Quality Control Board (RWQCB) and CDFW. Prior to construction activity, the Project applicant shall coordinate with the Lahontan RWQCB (Region 6) to ensure conformance with the requirements of the Porter-Cologne Water Quality Control Act. Prior to activity within CDFW jurisdictional streambeds or associated riparian habitat, the applicant shall coordinate with CDFW (Inland Deserts Region 6) relative to conformance with the Lake and Streambed Alteration permit requirements.

Pursuant to Fish and Game Code section 1602, the Project shall mitigate to ensure no-net-loss of waters at a minimum of 1:1 with re-establishment credits (0.14 acres of RWQCB/CDFW and 0.08 acres of only CDFW for a total of 0.23 acres of jurisdictional waters) for impacts to aquatic resources. Mitigation shall be completed through the use of a mitigation bank (e.g., West Mojave Mitigation Bank) or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with the RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Therefore, impacts to federally protected wetlands would not occur with compliance to existing regulatory requirements, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) ***Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

No Substantial Change from Previous Analysis. The EIR found that impacts to wildlife corridors and habitat linkages would be less than significant with implementation of **MM-BIO-3**.

Direct Impacts

No significant direct permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with Project activities. Existing nearby habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following Project completion. Wildlife movement may be temporarily disrupted during the construction phase of the Project, although this effect would be both localized and short term in nature. Nearby corridors that could support wildlife movement in the region, include the Oro Grande Wash and La Bureau of Power and Light Road immediately to the west, would not be impacted by the Project. Further, the Project site does not contain nursery sites, such as bat colony roosting sites or colonial bird nesting areas. Therefore, impacts associated with wildlife movement, wildlife corridors, and wildlife nursery sites would be less than significant.

Indirect Impacts

Construction-related short-term noise and work in the vicinity would be temporary and would not be expected to significantly disrupt wildlife movement due to ambient noise conditions and the ability for wildlife to continue to move around the construction area and upland portions of the BSA during and after construction. Temporary disturbance to local species may occur but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Work activities are not currently proposed during the night-time. Therefore, implementation of the Project would not result in significant short-term indirect impacts to wildlife corridors and migratory routes.

Potential long-term (post-construction) indirect impacts from operations and maintenance activities could disrupt wildlife movement around the Project due to increased lighting from buildings. **MM-BIO-3** (Designated Biologist and Best Management Practices) would ensure all lighting during operations and within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife would be directed away from natural areas.

Implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to wildlife movement to less than significant.

Conclusion

Impacts of the proposed Project are considered less than significant with mitigation incorporated, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Substantial Change from Previous Analysis. The EIR found that impacts to local policies and ordinances would be less than significant with implementation of **MM-BIO-2**.

A total of 35 western Joshua trees were documented within the BSA. All 35 individuals were documented within the Project site and will be directly removed by the Project. In addition to western Joshua tree, one desert native plant was observed within the BSA during the focused desert native plant survey: Wiggins' cholla (Appendix B).

In accordance with Chapter 16.24 of the Hesperia Municipal Code, the preparation of a western Joshua tree and desert native plants relocation plan is required to mitigate impacts to Joshua trees and desert native plants as a result of the Project. As of the date of this report, relocation of western Joshua trees is not a requirement of CDFW. However, relocation may be requested by CDFW following review of the Western Joshua Tree Conservation Act Incidental Take Permit Application. Should relocation be required by CDFW, the relocation specifications are detailed in Appendix B.

As required by **MM-BIO-2** (Desert Native Plants and Joshua Trees), mitigation for direct impacts to 35 western Joshua trees will be fulfilled through payment of fees consistent with the Western Joshua Tree Conservation Plan or through payment to a CDFW-approved mitigation bank. Conservation efforts for western Joshua tree will focus on the conservation of large, interconnected Joshua tree woodlands on lands where edge effects are limited, versus lands in urban settings that are subject to habitat fragmentation and edge effects, such as the Project site. Despite the City not requiring a relocation plan, a Joshua Tree Preservation, Protection, and Relocation Plan and Desert Native Plant Relocation Plan is provided in Appendix B to provide additional details about western Joshua tree within the Project site.

The Project could result in potentially significant impacts to native desert plants and western Joshua trees, which are addressed by state and local plant and tree preservation regulations, absent mitigation. Implementation of **MM-BIO-2** would reduce potential impacts California desert native plants and western Joshua tree to less than significant.

Impacts of the proposed Project are considered less than significant with mitigation incorporated, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with an adopted habitat conservation plan would occur.

The Project is located within the California Desert Conservation Area Plan (BLM 1980). The Project is also located within the Draft West Mojave Plan (BLM 2005) and the Desert Renewable Energy Conservation Plan (BLM 2016) areas. The West Mojave Plan and Desert Renewable Energy Conservation Plan are amendments to the California Desert Conservation Area Plan. The Bureau of Land Management issued a Record of Decision for the West Mojave Plan in 2006, although the West Mojave Plan has not been formally adopted. The Project will not conflict with the conservation criteria associated with the California Desert

Conservation Area Plan or Desert Renewable Energy Conservation Plan. No impacts associated with an adopted habitat conservation plan would occur. Therefore, impacts to an adopted habitat conservation plan would not occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with biological resources would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. Mitigation measures have been revised for clarification, however no new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR required the following applicable mitigation measures related to biological resources, which remain applicable:

BIO-1: Pre-Construction Surveys. The property owner or Project contractor will be responsible for scheduling vegetation clearing and grading activities outside of the typical avian nesting season (February 1 to August 31) to the maximum extent practical in order to comply with the Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Game Code. ~~If active nests are observed, a minimum buffer zone from the occupied nest is recommended to the maximum extent practicable. Once nesting has ended, the buffer may be removed~~. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the MBTA and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate buffer established around the nest, which will be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall also be conducted when construction occurs in close proximately to an active nest buffer. No Project activities may encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until is determined the nestlings have fledged and the nest is no longer considered active.

In addition, a pre-construction survey for burrowing owls shall be conducted by a City approved, licensed biologist no more than 14 days prior to commencement of grading, with a second survey within 24 hours of commencement of grading, and results shall be submitted to and approved by the Planning Division prior to issuance of a grading permit. The survey shall be conducted according to the recommended guidelines of the California Burrowing Owl Consortium (1993) and in consultation with the California Department of Fish and Wildlife (CDFW). If burrowing owls are detected, a Burrowing Owl Protection Plan shall be prepared in consultation with CDFW. The Burrowing Owl Relocation Plan will include that disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers will be established around occupied burrows in accordance with guidance provided in the Staff Report on Burrowing Owl Mitigation or

current version. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed.

Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project site and within a buffer zone by installing one-way doors in burrow entrances. These doors will be placed at least 48 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat will be provided following the guidance in the Staff Report on Burrowing Owl Mitigation or current version.

Where possible, burrows will be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow.

BIO-2: Desert Plants and Joshua Trees. Prior to the issuance of grading permits, the property owner or Project contractor shall submit an application and applicable fee paid to the City for removal or relocation of protected native desert plants under Hesperia Municipal Code Chapter 16.24 as required and schedule a pre-construction site inspection with the Planning Division and the Building Division. The application shall include certification from an appropriate tree expert or native desert plant expert to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the City's Municipal Code. Protected plants subject to Hesperia Municipal Code Chapter 16.24 may be relocated on site or within an area designated as an area for species to be adopted later. The application shall include a detailed Native Desert Transplant Plan for removal of all protected plants on the project site~~., including the 346 chaparral yucca, 12 cactus plants, and 577 Joshua trees to be potentially transplanted.~~ The plan shall be prepared by an appropriate tree expert or desert native plant expert recognized as qualified to conduct the survey by the City, and shall include but not be limited to the following measures:

- ~~Salvaged plants will be transplanted immediately to a permanent City approved off site area if possible. If the plants cannot be immediately taken to the permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to the permanent relocation area in an approved area within the project site, either a designated area within the parcels to be developed or within the designated remainder parcel.~~
- ~~Joshua trees shall be marked on the north facing side prior to excavation. Transplanted Joshua trees shall be planted in the same orientation as they occurred on the project site, with the marking on the north side of the trees facing north at the transplantation site.~~
- ~~Transplanted plants will~~ If plants are to be transplanted on-site, they must be watered at the time of transplantation, either to the permanent relocation on-site or the stockpile area, and monthly, as necessary. The schedule of watering will be determined by the tree expert or desert native plant expert to maintain plant health. Watering of the transplanted plants will continue until it has been determined that the transplants have become established in the permanent relocation area and no longer require supplemental watering.

- ~~A special-status plant survey shall be completed by a qualified biologist when the Opuntia basilaris species blooms (April– August) to verify the presence of this special status plan species on the project site. The survey shall be completed not more than one year prior to issuance of grading permits, and shall be included with the Native Desert Transplant Plan.~~

Mitigation for direct impacts to 35 western Joshua tree individuals will be fulfilled through payment of the elected fees as described in Section 1927.3 of the Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $2,500 for each western Joshua tree 5 meters or greater in height, $500 for trees 1 meter or greater but less than 5 meters in height, and $340 for each western Joshua tree less than 1 meter in height. California Department of Fish and Wildlife (CDFW) determines the final fee. Alternatively, mitigation will occur through off-site conservation or through a CDFW-approved mitigation bank, or as required by a Section 2081 Incidental Take Permit, if received.

BIO-3: Designated Biologist and Best Management Practices. During Project grading activities, the limits of grading and construction activities within the project footprint shall coincide with the Project footprint. The area to be graded shall be clearly delineated with temporary staking, flagging, or similar objects by the property owner or Project contractor. Grading of the Project footprint should be minimized to the greatest extent feasible and access to it should be via pre-existing/maintained access routes to the greatest extent possible.

The Designated Biologist shall have authority to immediately stop any activity that does not comply with the biological resources mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of an individual western Joshua tree.

The Designated Biologist shall be on site daily when impacts occur. The Designated Biologist shall conduct compliance inspections to minimize incidental take of western Joshua trees and impacts to other sensitive biological resources; prevent unlawful take of western Joshua trees; and ensure that signs, stakes, and fencing are intact and that impacts are only occurring inside the permitted impact footprint. Weekly written observation and inspection records that summarize oversight activities and compliance inspections and monitoring activities required by the Incidental Take Permit shall be prepared.

Construction Monitoring Notebook. The Designated Biologist shall maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all personnel who have successfully completed the education program. The permittee shall ensure that a copy of the construction monitoring notebook is available for review at the Project site upon request by the California Department of Fish and Wildlife.

Education Program. An education program (Worker Environmental Awareness Program [WEAP]) for all persons employed or otherwise working in the Project site shall be administered before performing impacts. The WEAP shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and status of western Joshua tree, burrowing owl, and loggerhead shrike and other biological resources mitigation measures described in the California Environmental Quality Act document. Interpretation for non-English-speaking workers will be provided, and the same instruction shall be provided to any new workers before they are authorized

to perform work in the Project site. Upon completion of the WEAP, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees who will be conducting work in the Project site.

Lighting. Lighting for construction activities and operations within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife will be directed away from natural areas.

Invasive Plant Management. To reduce the spread of invasive plant species, landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php). After construction, the Project applicant shall continually remove invasive plant species on site by hand or mechanical methods, as feasible.

Trash and Debris. The following avoidance and minimization measures shall be implemented during Project construction: (1) Fully covered trash receptacles that are animal-proof will be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the Project site. (2) Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis.

3.5 Cultural Resources

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? (Less-than-Significant Impact)

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? (Less-than-Significant Impact with Mitigation Incorporated)

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less-than-Significant Impact with Mitigation Incorporated)

d) Would the project disturb any human remains, including those interred outside of formal cemeteries? (Less-than-Significant Impact with Mitigation Incorporated)

Proposed Project Significance Determination

The following analysis is based, in part, on the November 2023 Draft Cultural Resources Technical Report and the November 2023 Paleontological Resources Inventory Memorandum prepared by Dudek and included in this document as Appendices C and D, respectively.

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No Substantial Change from Previous Analysis. The EIR did not identify any known or previously unknown historical resources within the proposed Project site as a result of the California Historical Resources Information System records search or pedestrian survey. As such, the EIR found that impacts to historical resources would be less than significant.

The cultural resources inventory completed in support of the present proposed Project identified five (5) previously recorded historic period resources within the proposed Project's records search area. The previously recorded historic period resources consist of three (3) historic-period unpaved roads (P-36-004179/CA-SBR-004179H, P-36-004253/CA-SBR-004253H, and P-36-004275/CA-SBR-004275H); a segment of US 395 and associated historic-period refuse scatters (P-36-007545/CA-SBR-007545H); and one (1) historic period archaeological site consisting of a can scatter (P-36-007760/CA-SBR-007760H). All historic period resources are distributed outside of the proposed Project site to the west, southwest, and east. Although historic period resources were identified within the proposed Project site during the archaeological pedestrian survey completed for the current proposed Project, these resources were observed to be in disturbed contexts and were determined to not be associated with any known historical land uses. Therefore, no further cultural resources considerations are required for these resources.

As such, impacts to known historical resources would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No Substantial Change from Previous Analysis. The EIR found that impacts to archaeological resources would be less than significant with implementation of **MM-CR-1** and **MM-CR-2**.

A review of historical topographic maps and aerial photographs indicate that the proposed Project site has remained vacant and undeveloped since at least 1902 with minimal disturbances caused by off-site vehicle use, pedestrian trails, illegal dumping, and development surrounding the site. No historic-period archaeological resources or resources of Native American origin were identified within the proposed Project site as a result of the California Historical Resources Information System records search. Additionally, as discussed above under the threshold for historical resources, the pedestrian survey identified historic period resources, which were observed to be in disturbed contexts and were determined to not be associated with any known historical land uses. Therefore, no further cultural resources considerations are required for these resources. While the results of the Native American Heritage Commission Sacred Lands File were positive for the presence of Native American heritage resources within the proposed Project site, it should be noted that results of the Sacred Lands File provided relate to the general regional area within and surrounding the proposed Project site and don't necessarily equate to the existence of resources within the specific area occupied by the proposed Project site. It is also important to note that the Oro Grande Wash, located over 0.25 miles to the west of the proposed Project site, would have been a natural resource that indigenous and historic occupants of the area may have found hospitable to habitation or other activities, increasing the potential for intact archaeological deposits to be located within the proposed Project site. Present site conditions include deep and ephemeral drainages present along the western half portion of the proposed Project site that drain to a concrete culvert at the southwestern corner. In areas where environmental conditions include alluvial activity, the depth where cultural material can be found has the potential of being considerably deeper.

In consideration of these factors, there is a potential to encounter subsurface intact archaeological deposits at locales and depths within the proposed Project that have not been previously disturbed. In the event that unanticipated archaeological resources are encountered during Project implementation, there is potential for those resources to be impacted adversely. Thus, mitigation is required to address impacts related to the inadvertent discovery of archaeological resources during construction, as outlined in **MM-CR-1**. In addition to the mitigation measures for cultural resources, additional management considerations have been incorporated to ensure that impacts to unanticipated archaeological resources would be less than significant.

Impacts of the proposed Project are considered less than significant with mitigation incorporated during construction, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Substantial Change from Previous Analysis. The EIR found that impacts to paleontological resources would be less than significant with implementation of **MM-CR-1**.

No paleontological resources were identified within the Project area as a result of the institutional records searches or desktop geological and paleontological review. In addition, the Project area is not anticipated to be underlain by unique geologic features. The Holocene alluvial deposits, aged less than 11,700 years ago, are generally too young to produce any fossil resources and therefore have low paleontological sensitivity. However, Pleistocene age deposits, such as the Shoemaker Gravel, are mapped across the majority of the project area and may be encountered at depth. The Shoemaker Gravel has a high paleontological sensitivity. If intact paleontological resources are located on site, ground-disturbing activities associated with construction of the proposed Project, such as large-diameter (2 feet or greater) drilling, grading during site preparation, and trenching for utilities, have the potential to destroy a unique paleontological resource or site. As such, the Project area is considered to be potentially sensitive for paleontological resources, and without mitigation, the potential damage to paleontological resources during construction associated with the Project is considered a potentially significant impact. Given the proximity of past fossil discoveries in the surrounding area within the Pleistocene age deposits, the Project area is highly sensitive for supporting paleontological resources below the depth of fill (if present) and Holocene alluvial deposits. However, upon implementation of **MM-CR-1**, impacts would be reduced to less than significant. In addition to **MM-CR-1**, additional management considerations have been incorporated to ensure that impacts to unanticipated paleontological resources would be less than significant.

Impacts of the proposed Project are considered less than significant with mitigation incorporated during construction, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

No Substantial Change from Previous Analysis. The EIR found that there are no prehistoric or historic burials were identified within the proposed Project site as a result of the California Historical Resources Information System records search (completed in June 2011) or pedestrian survey (completed in July 2011). Additionally, the EIR found that there are no formal cemeteries within the Project area, and therefore, there is a low likelihood for human remains to be encountered during ground disturbing activities. However, the EIR notes that there is always a possibility that unidentified human remains could be discovered during Project construction and impacts would be potentially significant. The EIR found that impacts to human remains would be less than significant with the implementation of **MM-CR-2**.

The updated California Historical Resources Information System records search and pedestrian survey, completed in September 2023 and October 2023, respectively, did not identify prehistoric or historic burials with the proposed Project site. Therefore, adherence to the existing mitigation measures for the inadvertent discovery of human remains as outlined under **MM-CR-2**, would ensure that any potential impacts to unknown human remains within the proposed Project site would be less-than-significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Therefore, impacts associated with human remains would remain less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with cultural resources would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR required the following applicable mitigation measures related to cultural resources, which have been revised for clarification and remain applicable:

CR-1: Although the cultural resources survey was conducted in as thorough a manner as possible, there is always the possibility that previously unidentified archaeological resources could be discovered during project construction. Prior to the issuance of grading permits, the property owner or project contractor will be responsible to retain the services of a qualified archaeologist, who shall monitor grading activities during project construction. In the event that any prehistoric or historic-period cultural resources (chipped or ground stone lithics, animal bone, ashy midden soil, structural remains, historic glass, or ceramics, etc.) are discovered, the project contractor will be responsible to cease all work in the vicinity and wait until the archaeologist has evaluated the significance of the find and has removed the resource as required by law.

All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, Tribal representative. Necessity of training attendance should be stated on all construction plans.

In consideration of the general sensitivity of the proposed Project site for cultural resources, a qualified archaeologist should be retained to conduct spot monitoring as well as on call response in the case of an inadvertent discovery of archaeological resources. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the SCCIC with the results of the cultural monitoring program.

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine

whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a Tribal representative may be necessary.

Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the proposed Project area based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Any associated laboratory and museum curation fees are the responsibility of the project proponent/applicant.

CR-2: If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made necessary findings as to origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. The following actions must be taken by the property owner or project contractor in the event that human remains are discovered on private or State land:

- Stop work immediately and contact the County Coroner. The County Coroner must be notified immediately of the find.
- The Coroner has two working days to examine the human remains after being notified. If the remains are determined to be prehistoric or Native American, the coroner shall notify the Native American Heritage Commission within 24 hours.
- The Native American Heritage Commission will immediately notify the person it believed to be the most likely descendent (MLD) of the deceased Native American. With the permission of the landowner, agency, or an authorized representative, the MLD may inspect the site of the discovery.
- The MLD shall make a recommendation to the owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods.

If the commission is unable to identify a descendent, the descendent identified fails to make a recommendation, or the landowner rejects the recommendation of the descendent and the

mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the descendent or the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with the Native American burial(s) with appropriate dignity on the property in a location not subject to further subsurface disturbance.

3.6 Geology and Soils

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (Less-than-Significant Impact)

ii) Strong seismic ground shaking? (Less-than-Significant Impact)

iii) Seismic-related ground failure, including liquefaction? (Less-than-Significant-Impact)

Iv) Landslides? (No Impact)

b) Would the project result in substantial soil erosion or the loss of topsoil? (Less-than-Significant Impact)

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (Less-than-Significant Impact)

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (Less-than-Significant Impact)

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? (Less-than-Significant Impact)

Proposed Project Significance Determination

The following geological analysis is based, in part, on the November 9, 2023, Geotechnical Investigation report prepared by Southern California Geotechnical Inc. and included in this document as Appendix E. This study consists of a subsurface explorations, geotechnical laboratory testing, and engineering evaluation and analysis for the Project site. Based on the results of these undertakings, the Geotechnical Study presents site-specific recommendations to be incorporated into the Project design and construction in order to address geotechnical concerns identified in the study.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Substantial Change from Previous Analysis. The EIR found that impacts associated with earthquake fault rupture would be less than significant.

The proposed changes are within the previously approved project site; therefore, the design, construction, or operation of the proposed changes would not affect the seismic risks of the site such as fault rupture.

Primary ground rupture is ground deformation that occurs along the surface trace of the causative fault during an earthquake. According to the EIR, the Project does not contain an active fault nor is it within an Alquist Priolo Earthquake Fault Zone (Hart and Bryant 1997).

According to the U.S. Geological Survey, the closest known fault to the Project site is the San Andreas Fault, located approximately 9 miles southwest. The Cleghorn Fault is located approximately 10 miles south and the North Frontal thrust system is approximately 11.25 miles east (USGS 2023). However, the Geotechnical Investigation (Appendix E) concluded that the Project site is not within a mapped Alquist–Priolo Earthquake Fault Zone and the geologic review did not indicate the presence of active surface faulting within or adjacent to the Project site. Therefore, impacts associated with earthquake fault rupture would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

ii) Strong seismic ground shaking?

No Substantial Change from Previous Analysis. The seismic characteristics of the Hesperia Commerce Center Lot 5 would remain unchanged from those discussed in the EIR.

Similar to other areas located in seismically active Southern California, the City is susceptible to strong ground shaking during an earthquake. However, the Project site is not located within an Alquist, Priolo Earthquake Fault Zone, and the site would not be affected by ground shaking more than any other area in this seismic region. The Project would comply with the most recent version of the California Building Code (CBC), which contains universal standards related to seismic load requirements. Compliance with the CBC would ensure the structural integrity in the event that seismic ground shaking is experienced at the Project site.

According to the Geotechnical Investigation (Appendix E), the Project site is located in an area that is subject to strong ground motions due to earthquakes. Like other development projects in the City and throughout the broader Southern California region, the Project would be required to comply with all applicable requirements contained in the current CBC. The CBC includes specific seismic design provisions and would apply to all construction associated with the Project. Compliance with these CBC seismic requirements and any applicable local amendments would ensure that the proposed improvements are protective from loss or injury in the event on an earthquake. As such, impacts associated with seismic ground shaking would be

less than significant. Therefore, no new or more severe impacts associated with seismic ground shaking would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

iii) Seismic-related ground failure, including liquefaction?

No Substantial Change from Previous Analysis. The seismic characteristics of the Hesperia Commerce Center Lot 5 would remain unchanged from those discussed in the EIR.

Soil liquefaction is a seismically induced form of ground failure that has been a major cause of earthquake damage in Southern California. Liquefaction is a process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain such as an earthquake. Due to the existing geologically young, loose, unconsolidated sediments throughout the City, liquefaction has the potential to occur within the City. However, the Project would comply with the most recent version of the CBC, which contains universal standards related to the Project site's specific soil characteristics. Compliance with the CBC would ensure the structural integrity in light of seismic-related issues experience at the Project site.

Once redeveloped, the Project site would include one warehouse building, paved surfaces, and other improvements that would stabilize and retain on-site soils. The remaining portions of the Project site containing pervious surfaces would primarily consist of landscape areas. These landscape areas would include a mix of trees, shrubs, plants, and groundcover that would help retain on-site soils while also preventing wind and stormwater erosion. As such, with compliance with these federal, state, and local requirements, impacts associated with soil erosion and topsoil loss would be less than significant. Therefore, no new or more severe impacts associated with soil erosion and topsoil loss would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

iv) Landslides?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with landslides would be less than significant as the topography of the majority of the City is flat.

The City is not located within an area identified as having the potential for earthquake-induced landslides. Both the Project site and the surrounding area are predominantly flat and lack any substantial variation in topography such as hillsides or riverbanks that are typically associated with landslides. Therefore, no impacts associated with landslides would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project result in substantial soil erosion or the loss of topsoil?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with soil erosion and topsoil loss would be less than significant with compliance to local and state building codes and requirements for erosion control and grading, and acquisition of a National Pollutant Discharge Elimination System (NPDES) permit and consequently the development and implementation of a stormwater pollution prevention plan.

Additionally, Project development would be subject to local and state building codes and requirements for erosion control and grading Further, since the Project is greater than 1 acre, it would be subject to NPDES requirements. Under NPDES, a stormwater pollution prevention plan would be required, along with best management practices (BMPs) designed to prevent erosion and siltation during construction. Typical BMPs include maintaining or creating drainages to convey and direct surface runoff from bare areas and installing physical barriers such as berms, silt fencing, wattles, straw bales, and gabions.

Once redeveloped, the Project site would include one warehouse building, paved surfaces, and other improvements that would stabilize and retain on-site soils. The remaining portions of the Project site containing pervious surfaces would primarily consist of landscape areas. These landscape areas would include a mix of trees, shrubs, plants, and groundcover that would help retain on-site soils while also preventing wind and stormwater erosion. As such, with compliance with these federal, state, and local requirements, impacts associated with soil erosion and topsoil loss would be less than significant. Therefore, no new or more severe impacts associated with soil erosion and topsoil loss would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with unstable geologic units or soils would be less than significant with adherence to CBC policies and implementation measures.

Project activities may occur in geologically unstable areas such as zones of potential liquefaction or collapsible soils. However, the Project would comply with the most recent version of the CBC, which contains universal standards related to the Project site's specific soil characteristics. Compliance with the CBC would ensure the structural integrity in light of seismic-related issues experience at the Project site. Additionally, a geotechnical/soils study has been prepared for the Project, which would provide engineering recommendations based on the particular geological characteristics of the Project site. These site-specific recommendations would include requirements regarding engineering, design, and construction (and possibly operation) of the Project. Some of these recommendations would reiterate requirements already set forth in the CBC, and other recommendations may exceed these requirements based on the specific geological characteristics of the Project site. Compliance with these requirements would reduce the potential risk to people and structures due to unstable and expansive soils. As such, impacts associated with unstable and expansive soils would be less than significant. Therefore, no new or more severe impacts associated with unstable and expansive soils would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Substantial Change from Previous Analysis. The EIR found that less-than-significant impacts associated with expansive soils would occur.

Expansive soils are characterized by their potential shrink/swell behavior. Shrink/swell is the change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the cycle of wetting and drying. Clay minerals are known to expand with changes in moisture content. The higher the percentage of expansive minerals present in near-surface soils, the higher the potential for substantial expansion.

According to the City's General Plan, the City's soils mostly comprise water-laid sand, silt, and gravel (City of Hesperia 2010). In addition, according to the Geotechnical Investigation report (Appendix E), laboratory testing performed on a representative sample of the near surface soils indicates that the materials possess a non-expansive to very low expansion potential (EI = 0 and 10). Therefore, no design considerations related to expansive soils would be considered warranted for the Project site. As such, impacts would be less than significant. Therefore, no new or more severe impacts associated with expansive soils would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with adequacy of soils to support septic systems would occur.

Approximately 11% of the geographic area studied in the City of Hesperia Master Plan is currently served by the City's sewers, which ultimately flow to the Victor Valley Wastewater Reclamation Authority Regional Wastewater Treatment Plant. The remaining area is either undeveloped or served by on-site systems (septic tanks). Based on the Wastewater Master Plan, the wastewater flow volume from the service area is 2.0 million gallons per day or 2,240 acre-feet per year (Hesperia Water District 2021). New high-density developments located near an existing area with sewer service will be required to connect to the sewer pursuant to the California Plumbing Code and Lahontan Guidelines. The Project site is near existing sewer lines, which include a gravity line starting east of U.S. Highway 395 in line with Caliente Road (to the west of the Project site). As such, this Project will not be using a septic system. Therefore, no impacts associated with adequacy of soils to support septic systems would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact identified in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with geology and soils would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to geology and soils.

3.7 Greenhouse Gas Emissions

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
VII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Significant and Unavoidable Impact)

The construction greenhouse gas (GHG) emissions from the Certified EIR are shown in Table 3-5.

Table 3-5. Estimated Annual Construction GHG Emissions – Certified EIR

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2013	857.49	0.09	0.00	859.28
2014	11,147.50	0.76	0.00	11,163.55
2015	8,595.32	0.55	0.00	8,606.95
			Total	20,629.78
			Annualized emissions over 30 years (metric tons per year)	687.66

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent;. Values of "<0.01" indicate that the estimated emissions are less than two decimals.
Source: URS 2013.

As shown in Table 3-5, the estimated total GHG emissions during construction would be approximately 20,630 metric tons (MT) carbon dioxide equivalent (CO_2e). Estimated Project -generated construction emissions amortized over 30 years would be approximately 688 MT CO_2e per year.

CalEEMod was used to estimate potential operational GHG emissions from energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment for the Project. Table 3-6 presents the increase in GHG emissions from the Certified EIR.

Table 3-6. Estimated Annual Operation GHG Emissions – Certified EIR

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	0.00	0.00	0.00	0.00
Energy	6,728.26	0.20	0.08	6,757.29
Mobile	21,255.15	0.78	0.00	21,271.77
Waste	6,841.21	404.30	0.00	15,331.58
Water	86,629.50	467.48	12.52	100,328.07
			Total	**143,688.71**
			Amortized Construction Emissions	*687.66*
			Total with Amortized Construction Emissions	**144,376.37**

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent. Values of "<0.01" indicate that the estimated emissions are less than two decimals.
Source: URS 2013.

As shown in Table 3-6, the estimated increase in GHG emissions from operation of the Project would be approximately 144,376 MT CO_2e per year, including amortized construction emissions. Annual operational GHG emissions with amortized construction emissions would exceed the South Coast Air Quality Management District recommended threshold of 3,000 MT CO_2e per year. This impact would be potentially significant before mitigation. As no mitigation was identified in the EIR to reduce emissions of GHGs, the impact would be considered significant and unavoidable.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Significant and Unavoidable Impact)

The 2013 Certified EIR discussed several climate change plans including the California Air Resources Board (CARB) 2008 Scoping Plan, the City of Hesperia General Plan, and City of Hesperia Climate Action Plan. However, no consistency analysis or impact evaluation was made with respect to whether the Project would conflict with an applicable GHG reduction plan. The Certified EIR did include mitigation measure GHG-1 to implement General Plan Policies CN-7.4, CN-7.7, VN-7.8 and VN-7.9 during construction and operations. Impacts to GHG emissions were determined to be significant and unavoidable.

Proposed Project Significance Determination

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Substantial Change from Previous Analysis. The EIR found significant unavoidable impacts associated with the generation of GHG emissions, either directly or indirectly, would occur.

Construction Emissions

Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. CalEEMod was used to estimate GHG emissions during construction. Construction of the Project is anticipated to last up to 13 months. Table 3-7 presents construction GHG emissions for the Project.

Table 3-7. Estimated Annual Construction GHG Emissions – Project

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2025	644.60	0.02	0.01	650.30
2026	20.37	0.00	0.00	20.53
			Total	**670.83**
			Annualized emissions over 30 years (metric tons per year)	***22.36***

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas.
See Attachment A for complete results. Values of "<0.01" indicate that the estimated emissions are less than two decimals.

As shown in Table 3-7, the estimated total GHG emissions during construction would be approximately 665 MT CO_2e. Estimated Project -generated construction emissions amortized over 30 years would be approximately 22 MT CO_2e per year.

Operational Emissions

CalEEMod was used to estimate potential operational GHG emissions from energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment for the Project. In addition, GHGs generated by forklifts were estimated for the Project. Operational year 2026 was assumed as the first full year of operation for the Project and year 2026. Table 3-8 presents the increase in GHG emissions from the Project.

Table 3-8. Estimated Annual Operation GHG Emissions – Project

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	2.19	0.00	0.00	2.20
Energy	191.44	0.02	0.00	192.10
Mobile	1,751.30	0.01	0.20	1,813.80
Off-road	684.44	0.02	0.00	685.47
Stationary	5.71	0.00	0.00	5.73
Waste	12.58	1.26	0.00	44.02
Water	104.07	2.78	0.07	193.44
			Total	**2,936.70**
			Amortized Construction Emissions	*22.36*
			Total with Amortized Construction Emissions	**2,959.06**

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Values of "<0.01" indicate that the estimated emissions are less than two decimals. See Attachment A for details.

As shown in Table 3-8, the estimated increase in GHG emissions from operation of the Project would be approximately 2,959 MT CO_2e per year, including amortized construction emissions. Annual operational GHG emissions with amortized construction emissions would not exceed the South Coast Air Quality Management District recommended threshold of 3,000 MT CO_2e per year. This impact would be less than significant. The Project would also emit fewer GHGs than the Certified EIR. As such, no substantial change from the previous Certified EIR would occur with regard to the generation of GHG emissions.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Substantial Change from Previous Analysis. The EIR found significant unavoidable impacts associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would occur.

Project Consistency with State Reduction Targets and CARB's Scoping Plan

The Scoping Plan, approved by CARB in 2008 and updated in 2014, 2017, and 2022, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs (CARB 2014, CARB 2017, CARB 2022). As such, the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[4] Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-global warming potential GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low-Carbon Fuel Standard), among others. The Project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of Assembly Bill 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 3-9 highlights measures that have been developed under the Scoping Plan and the Project's consistency with those measures. Table 3-9 also includes measures recommended in the Scoping Plan. To the extent that these regulations are applicable to the Project, its inhabitants, or uses, the Project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

[4] The Final Statement of Reasons for the amendments to the State CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	*Consistent.* The Project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	T-2	*Consistent.* Motor vehicles driven by the Project's employees would use compliant fuels.
Low Carbon Fuel Standard (18% reduction in carbon intensity by 2030)	Recommended	*Consistent.* Motor vehicles driven by the Project's employees would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	*Not applicable.* The proposed Project would not prevent CARB from implementing this measure.
Advanced Clean Transit	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Last Mile Delivery	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction in Vehicle Miles Traveled	Recommended	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	*Consistent.* These standards would be applicable to the light-duty vehicles that would access the Project site. Motor vehicles driven by the Project's employees would maintain proper tire pressure when their vehicles are serviced. The Project's employees would replace tires in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. Motor vehicles driven by the Project's employees would use low-friction oils when their vehicles are serviced. The Project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. In addition, the Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification	T-6	*Consistent.* The proposed Project would not include cold storage and therefore not accommodate trailers with transportation refrigeration units. The Project would include natural gas forklifts and one diesel yard truck.

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction		
California Sustainable Freight Action Plan	Recommended	*Consistent.* Per mitigation measure GHG-1, the project will implement the EPA SmartWay Program for trucks.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	*Consistent.* Heavy-duty vehicles would be required to comply with CARB GHG reduction measures. In addition, the Project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive project	T-8	*Consistent.* The Project's medium- and heavy-duty vehicles (e.g., water delivery trucks) could take advantage of the vehicle hybridization action, which would reduce GHG emissions through increased fuel efficiency. In addition, the Project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
High-Speed Rail	T-9	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Transportation Electrification	2022 Appendix D	*Consistent.* The Project would include EV charging infrastructure meets the voluntary standard in the CALGreen Code at time of Project approval.
VMT Reduction		
Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)	2022 Appendix D	*Consistent.* The Project site is located on an undeveloped land that is close to existing development and served by existing utilities and essential public services.

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Does not result in the loss or conversion of natural and working lands	2022 Appendix D	*Consistent.* The Project site is currently undeveloped and not used as working lands.
Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or, Is in proximity to existing transit stops (within a half mile), or Satisfies more detailed and stringent criteria specified in the region's SCS.	2022 Appendix D	*Consistent.* The Project is located less than 800 feet from an existing park and ride facility.
Reduces parking requirements by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	2022 Appendix D	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
At least 20 percent of units included are affordable to lower-income residents	2022 Appendix D	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Results in no net loss of existing affordable units	2022 Appendix D	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	2022 Appendix D	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	*Consistent.* The Project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	*Consistent.* The Project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Combined Heat and Power	E-2	*Not applicable.* This measure does not apply to the project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Renewable Portfolios Standard (33% by 2020)	E-3	*Consistent.* While the Project would support this goal, the 2020 goal has passed and would no longer apply.
Renewable Portfolios Standard (50% by 2050)	Recommended	*Consistent.* The Project would support the RPS goal by production of 75% of electricity needs through on-site solar.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	*Consistent.* The Project would support the RPS goal by production of 75% of electricity needs through on-site solar.
Water Sector		
Water Use Efficiency	W-1	*Not applicable.* The proposed Project would not prevent CARB from implementing this measure.
Water Recycling	W-2	*Not applicable.* Recycled water is not available to the project site. The Project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	*Not applicable.* This is applicable for the transmission and treatment of water, but it is not applicable for the Project.
Reuse Urban Runoff	W-4	*Not applicable.* The reuse of urban water on site was determined to not be feasible. The Project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	*Not applicable.* Applicable for wastewater treatment systems. Not applicable for the Project.

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	*Not applicable.* The proposed Project would not prevent CARB from implementing this measure.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	*Not applicable.* The proposed Project would not prevent CARB from implementing this measure.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	*Consistent.* The Project would be built in accordance with Title 11 CALGreen standards in place at the time building permits are obtained.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	*Not applicable.* The proposed Project would not prevent CARB from implementing this measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Refinery Flare Recovery Process Improvements	I-4	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Increasing the Efficiency of Landfill Methane Capture	RW-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Mandatory Commercial Recycling	RW-3	*Consistent.* During both construction and operation of the Project, the Project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.
Increase Production and Markets for Compost and Other Organics	RW-4	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Anaerobic/Aerobic Digestion	RW-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Extended Producer Responsibility	RW-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Environmentally Preferable Purchasing	RW-7	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Forests Sector		
Sustainable Forest Target	F-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Limit High Global Warming Potential Use in Consumer Products	H-4	*Consistent.* The Project's employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	*Consistent.* Employees of the Project would conduct air conditioning refrigerant leak tests during periodic vehicle smog checks.

Table 3-9. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
40% Reduction in Methane and Hydrofluorocarbon Emissions	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
50% Reduction in Black carbon Emissions	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.

Source: CARB 2008, 2017, CARB 2022.
Notes: Scoping Plan = CARB Climate Change Scoping Plan: A Framework for Change Scoping Plan; CARB = California Air Resources Board; GHG = greenhouse gas; EPA = U. S. Environmental Protection Agency; EV = electric vehicle; Project = HCC I Lot 5 project; CALGreen = California Green Building Standards; SCS = Sustainable Communities Strategy; RPS = Renewables Portfolio Standard; SF_6 = sulfur hexafluoride.
VMT = vehicle miles traveled.

Based on the analysis in Table 3-9, the Project would be consistent with the applicable strategies and measures in the Scoping Plan.

Consistency with the City's Climate Action Plan

The City adopted a CAP in 2010 to reduce emissions of GHGs within the City. The CAP was developed to be consistent with Assembly Bill 32 with GHG reduction goals through 2020. The City's CAP has not been updated to reflect the states GHG emissions reduction goals beyond 2020 and thus is not applicable to projects that are operational after 2020, including this Project. However, for informational purposes only, the Project's consistency with the applicable City's CAP measures is provided in Table 3-10 below.

Table 3-10. Consistency with the City's Climate Action Plan

CAP Policies	CAP Implementation Action	Project Consistency
CAP-1.1	Projects developed within a CAP compliant Development Plan or Specific Plan that meet all applicable design criteria and mitigation measures will be deemed consistent with the CAP.	*Consistent.* The Project is consistent with the underlying zoning for the site and includes mitigation measure GHG-1 from the Certified EIR.
CAP-1.5	Projects that require a discretionary approval shall reduce operational greenhouse gas emissions by at least 12 percent, without accounting for regulations discussed in the CAP. The project inventory should include all potential sources, including but not limited to those identified in this CAP.	*Consistent.* As shown in Section 4.4.1 of Appendix A, the Project would result in 98% fewer GHG emissions than that evaluated within the Certified EIR.
CAP-9.2	Track State initiatives regarding zero net energy consumption and encourage installation of solar or other yet-to-be determined technologies that prove to be cost-effective.	*Consistent.* The Project would include solar photovoltaics on site to offset at least 75% of the Project's electricity demand.
CAP-9.5	Promote and incentivize alternative energy such as wind and solar in new development and revitalization projects.	*Consistent.* The Project would include solar photovoltaics on site to offset at least 75% of the Project's electricity demand.
CAP-10.2	Achieve the state target of a 20-percent reduction in water consumption by 2020.	*Consistent*. The Project would include xeriscaping and other water saving features on site.
CAP-11.2	Require new commercial, multi-family residential, and industrial development to incorporate storage of recyclables in site designs.	*Consistent*. The Project would include recycling storage on site.

Note: CAP = climate action plan.
Source: City of Hesperia 2010.

As shown in Table 3-10, the Project would be consistent with the applicable City CAP policies.

Potential to Conflict with SCAG's RTP/SCS

The Southern California Association of Governments (SCAG) 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California Region pursuant to SB 375. In addition to demonstrating the Region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020-2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use.

The following strategies are intended to be supportive of implementing the 2020-2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region (SCAG 2020). The strategies that pertain to residential development and SCAG's support of local jurisdiction sustainability efforts would not apply to the Project. The Project's compliance with the remaining applicable strategies is presented below).

- Focus Growth Near Destinations and Mobility Options. The Project's compliance with this strategy of the 2020-2045 RTP/SCS is supported because the Project would introduce new jobs proximate to existing housing, which would reduce vehicle miles traveled. The Project would be located in area with a low job to housing ratio. The Project's proximity to existing freeways also helps to reduce vehicle miles traveled and local truck traffic congestion.
- Leverage Technology Innovations. One of the technology innovations identified in the 2020-2045 RTP/SCS that would apply to the Project is the promotion and support of low emission technologies for transportation, such as alternative fueled vehicles to reduce per capita GHG emissions. The Project would participate in the U.S. Environmental Protection Agency SmartWay program, which reduces GHG emissions from trucks. The Project would also include on-site solar to offset at least 75% of the Project's electricity demand.
- Promote a Green Region. The third applicable strategy within the 2020-2045 RTP/SCS, for individual developments, such as the Project, involves promoting a green region through efforts such as supporting local policies for renewable energy production and promoting more resource efficient development (e.g., reducing energy consumption) to reduce GHG emissions. The Project would include on-site solar to offset at least 75% of the Project's electricity demand.

Based on the analysis above, the Project would be consistent with the SCAG 2020-2045 RTP/SCS. As such, no substantial change from the previous Certified EIR would occur.

Conclusion

In conclusion, no new or more severe impacts associated with GHG emissions would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR required the following applicable mitigation measures related to GHG emissions, which remain applicable:

GHG-1: The property owner or project contractor shall implement General Plan Policies CN-7.4, CN-7.7, VN-7.8, VN-7.9 to the extent of feasible during project construction and operations. Specifically, construction drawings and building specifications submitted and approved by the Building and Planning Divisions shall include the following measures as applicable:

- Passive day-lighting of facilities
- Cool roofs
- Cool pavement
- Xeriscaping
- Energy efficient appliances
- Carpooling program
- Installation and use of facility power instead of Transport Refrigeration Units (TRUs) if applicable.
- U.S. Environmental Protection Agency SmartWay Program for trucks to increase fuel savings through low resistance tires, improved aerodynamics, retrofit technologies and idle reduction technologies.

3.8 Hazards and Hazardous Materials

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less-than-Significant Impact)

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less-than-Significant Impact)

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (Less-than-Significant Impact)

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Less-than-Significant Impact)

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (No Impact)

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? (No Impact)

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Less-than-Significant Impact)

h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (Less-than-Significant Impact)

Proposed Project Significance Determination

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Substantial Change from Previous Analysis. The EIR found that less-than-significant impacts associated with a significant hazard to the public or the environment through the routine transport, use, or disposal of hazard materials would occur.

The Project would construct an industrial warehouse building, consistent with similar uses analyzed within the EIR. Compliance with Title 49 of the Code of Federal Regulations, U.S. Department of Transportation, State of California, and local laws, ordinances and procedures would ensure that the hazardous materials are properly handled, used, stored and disposed of; and in the event that hazardous materials are accidentally released, to prevent or reduce injury to health and the environment. Therefore, no new or more severe impacts associated with significant hazard to the public or the environment through the routine transport, use, or disposal of hazard materials would be less than significant would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No Substantial Change from Previous Analysis. The EIR found that less-than-significant impacts associated with the accidental release of hazardous materials into the environment would occur. As discussed in the EIR, the previously- approved project is consistent with the allowable uses intended for the Commercial/Industrial Business Park District. The currently proposed Project would not change uses from what was described in the EIR. The Project would not contain or include significant amounts of hazardous materials. Therefore, with respect to the release of hazardous materials into the environment, impacts would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Substantial Change from Previous Analysis. The EIR found that a less-than-significant impact associated with emitting or handling hazardous materials within one-quarter mile of a school would occur.

The closest school to the Project site is Canyon Ridge High School, located approximately 1.25 miles northeast of the Project site. Therefore, no impacts associated with emitting or handling hazardous materials within 0.25 miles of a school would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Substantial Change from Previous Analysis. The EIR found that less-than-significant impacts associated with hazardous material sites would occur. The EIR describes several Phase I Environmental Site Assessments that have been prepared for the previously approved project site and stated that the project site is not listed as a hazardous materials site.

The California Department of Toxic Substances Control's EnviroStor database tracks cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination. According to the database search, no sites or facilities listed in the database are located within or adjacent to the Project site (DTSC 2023). The SWRCB's GeoTracker database identifies leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites. A review of GeoTracker did not identify any sites or facilities within or adjacent to the Project site (SWRCB 2023). Therefore, no new or more severe impacts associated with hazardous materials sites would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Substantial Change from Previous Analysis. The EIR found that no impacts associated with an airport land use plan would occur. The EIR describes that the project site is not within the vicinity of an airport land use plan nor is it within 2 miles of an airport. The closest airport to the Project site is Hesperia Airport, located more than 5 miles to the southeast.

Therefore, impacts associated with public airport hazards would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with private airstrip hazards would occur.

The Project site is not located within an airport land use plan and is not within 2 miles of a public airport, public use airport, or private airstrip. Therefore, no impacts associated with private airstrip hazards would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Substantial Change from Previous Analysis. The EIR found that less-than-significant impacts associated with the interference of an adopted response plan or emergency evacuation plan would occur.

Access to the Project site would be provided by Caliente Road West Driveway, a 50-foot-wide, full-access (passenger cars and trucks) driveway. Project access would be consistent with Hesperia Fire Department access requirements. All Project driveways have been designed to allow for minimum turning radii, signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site, and all gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas. As such, impacts associated with the interference of an adopted emergency response plan or emergency evacuation plan would be less than significant. Therefore, no new or more severe impacts associated with the interference of an adopted emergency response plan or emergency evacuation would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with wildland fires would occur.

According to the California Department of Forestry and Fire Protection's 2023 Local Response Area map for the City, the Project site Is not located in a fire hazard severity zone (CAL FIRE 2023). However, According to the General Plan Safety Element, the City, especially the southern part of Hesperia is susceptible to wildfires. In addition, based on a cumulative point system that weighs a community's fire suppression delivery system, including fire dispatch, fire department representation (in the form of equipment, personnel, training, distribution of fire stations), and water supply adequacy and condition, the Insurance Services Offices ranks a community's fire protection needs and services. Rating varies from Class 1 (best) to Class 10 (worst). Hesperia currently has a Class 5 Insurance Services Offices rating in the developed portion of the City and a rating of Class 9 in the outlying areas. Consequently, the City has adopted the most recent version of the Wildland – Urban Interface Code and Chapter 7A of the CBC for use in the City where the Insurance Services Offices number exceeds 5 (City of Hesperia 2010). The Project site is flat and would not exacerbate wildfire risks or expose people to downslope or downstream effects as a result of runoff, post-fire slope instability or drainage changes. The Project site is also adjacent to existing development and roadways, which would act to reduce impacts related to the spread of wildfire. Therefore, no impacts associated with wildland fires would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with hazards and hazardous materials would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to hazards and hazardous materials.

3.9 Hydrology and Water Quality

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project violate any water quality standards or waste discharge requirements? (Less-than-significant impact with mitigation incorporated)

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)? (No impact)

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (Less-than-significant impact)

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (Less-than-significant impact)

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (Less-than-significant impact)

f) Would the project otherwise substantially degrade water quality? (Less-than-significant impact with mitigation incorporated)

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (No impact)

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows? (Less-than-significant impact)

i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (Less-than-significant impact)

j) Inundation by seiche, tsunami, or mudflow? (No Impact)

Proposed Project Significance Determination

a) Would the project violate any water quality standards or waste discharge requirements?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with water quality standards or waste discharge standards would be less than significant with incorporation of MM-WQHYDRO-1–7. The currently proposed Project is within the same footprint as the previously approved project and would implement the previously approved mitigation measures. The Project also would implement BMPs during construction and post construction to reduce impacts on water quality.

In addition, a new engineered stormwater drainage system would be constructed on the east side of the Project site to collect and treat on-site stormwater. Post-development, stormwater flows would be captured on site and treated within an underground infiltration facility (Appendix F). Water quality would not be impacted as a result of the Project. Therefore, no impacts associated with water quality standards or waste discharge requirements would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

No Substantial Change from Previous Analysis. The EIR found that no significant impact associated with groundwater resources would occur.

The Project would result in an increase of impervious surfaces. However, the Project would include a new engineered stormwater drainage system on the east side of the Project site to collect and treat on-site stormwater within an underground infiltration facility (Appendix F). In addition, implementation of site-specific BMPs would further reduce the potential impacts associated with groundwater supplies. Therefore, no impacts associated with substantially depleting groundwater supplies or interfering substantially with groundwater recharge would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with the existing draining pattern of the site or area would be less than significant. The erosion and siltation impacts of the project were determined not to be adverse in the EIR. The proposed Project would increase the impervious

area at the Project site through the construction of a 150,175-square-foot industrial warehouse building, inclusive of office space, situated on approximately 11.01 acres of the previously approved project site. Therefore, no impacts associated with substantially altering the drainage pattern of the site or area would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Substantial Change from Previous Analysis. Refer to Section 3.9(c). The EIR found that impacts associated with the existing draining pattern of the site or area would be less than significant. The Project is located on vacant land and would not alter the course of a stream or river. Additionally, the Project includes a new engineered stormwater drainage system that would capture stormwater flows on site and treated within an underground infiltration facility. The Project's stormwater system has been designed such that it would retain and infiltrate the entire volume generated from a 100-year storm event, and no stormwater runoff would be released off site during this event. Therefore, no impacts associated with surface runoff would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No Substantial Change from Previous Analysis. Refer to Section 3.9(d). The EIR found that impacts associated with runoff water would be less than significant.

As previously discussed, the Project would include a new engineered stormwater drainage system to collect and treat on-site stormwater. The Project and its new stormwater drainage system would capture and attenuate stormwater consistent with City and San Bernardino County stormwater requirements, including requirements in the San Bernardino County Hydrology Manual and Mojave Watershed Technical Guidance. In addition, it would attenuate flows beyond what is required. Specifically, the Project's stormwater system has been designed such that it would retain and infiltrate the entire volume generated from a 100-year storm event, and no stormwater runoff would be released off site during this event. Therefore, no impacts associated with runoff water would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

f) Would the project otherwise substantially degrade water quality?

No Substantial Change from Previous Analysis. Refer to Section 3.9(a). The EIR found that impacts associated with water quality would be less than significant with incorporation of **MM WQHYDRO-1** through 7. The Project would implement the BMPs and mitigation measures identified in the EIR to reduce impacts on water quality. Therefore, impacts associated with water quality would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Substantial Change from Previous Analysis. The EIR found that the project is not within a 100-year flood plain and would not have flooding hazard impacts.

According to the most recent Federal Emergency Management Agency Flood Insurance Rate Map issued in 2008, the Project site is not located within the 100-year flood hazard area (FEMA 2008). In addition, the proposed Project does not include the development of housing. Therefore, no impacts associated with placing housing within a 100-year flood hazard area would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with placing structures within a 100-year flood hazard area would be less than significant.

As described in Section 3.9(g), the Project site is not located within the 100-year flood hazard area (FEMA 2008). Therefore, no impacts associated with placing structures within a 100-year flood hazard area would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with flooding would be less than significant.

As described in Section 3.9(g), the Project site is not located in the 100-year flood hazard area. There are no nearby dams or levees to the Project site (FEMA 2008). Therefore, no impacts associated with flooding, including as a result of the failure of a levee or dam would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

j) Inundation by seiche, tsunami, or mudflow?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with seiche, tsunami, and mudflow would occur.

The Project site would not be susceptible to flood hazards, tsunamis, or seiche. Seiche is general associated with oscillation of enclosed bodies of water (e.g., reservoirs, lakes) typically caused by ground shaking associated with a seismic event; however, the Project site is not located near an enclosed body of water. Flooding from tsunami conditions is not expected since the Project site is located 61 miles from the Pacific Ocean. Therefore, no impacts associated with seiche, tsunami, and mudflow would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with hydrology and water quality would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR required the following applicable mitigation measures related to hydrology and water quality, which remain applicable:

WQHYDRO-1: Building plans submitted to and approvable by the Building Division shall be designed so that infrastructure associated with the proposed Project is situated outside jurisdictional areas of streams and drainages (e.g., channels and banks). A conservation easement shall be recorded within a drainage easement, which will ultimately become a trail down the middle of the Oro Grande Wash. No buildings or structures will be permitted within the easement, which shall be maintained as close to its natural state as possible.

WQHYDRO-2: The property owner and future building tenants shall provide employee training concerning water quality and site management (as is required in the WQMP). Employee training information shall be submitted to the City Building and Planning Divisions prior to issuance of final occupancy permits.

WQHYDRO-3: Landscape plan submitted for the Project shall be designed to include drought- tolerant or xeriscape landscaping. Plans will be reviewed and approved by the Building and Planning Divisions prior to issuance of final occupancy permits.

WQHYDRO-4: During Project construction and operation, the property owner or Project contractor will be required to use or store hazardous materials in a safe manner and at an appropriate distance from known or identified natural drainages. Material Safety Data Sheets shall be made available to all site workers for cases of emergency.

WQHYDRO-5: The property owner or Project contractor will be required to provide a note on Project grading plans to identify that any disturbed areas associated with temporary construction will be returned to original conditions (to the extent possible) after completion of Project construction.

WQHYDRO-6: Drainage control features, including on-site retention facilities, would be installed where appropriate, as well as other stormwater protection measures included, such as filters to remove oils, grease and other contaminants, as part of the SWPPP and WQMP documents.

WQHYDRO-7: Stormwater drainage inside the proposed Project boundaries would be designed to minimize erosion and to provide for sediment control. Drainage control measures will be applied that would discharge no greater surface run-off as the existing conditions to prevent erosion of down-slope properties. Final design of the site drainage would be subject to the conditions of the grading permit.

3.10 Land Use and Planning

		New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
X.	**LAND USE AND PLANNING** – Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project physically divide an established community? (No Impact)

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (Less-than-Significant Impact)

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan? (No Impact)

Proposed Project Significance Determination

a) Would the project physically divide an established community?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with physical division of an established community would occur.

The physical division of an established community typically refers to the construction of a linear feature, such as a major highway or railroad tracks, or removal of a means of access such as a local road or bridge that would impair mobility within an existing community or between a community and outlying area. The Project

site includes one parcel of vacant, undeveloped land. Therefore, no impacts associated with physical division of an established community would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) ***Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?***

No Substantial Change from Previous Analysis. The EIR found that impacts associated with applicable land use plans, policies, and regulations would be less than significant.

The proposed Project location for the HCC I Lot 5 Project is within the existing Hesperia Commerce Center project site boundary, analyzed in the HCC EIR. The proposed Project would remain consistent with the City's General Plan designation of Specific Plan. The site is within the Commercial/Industrial Business Park (CIBP) District of the Main Street and Freeway Corridor Specific Plan, which allows the development with approval of a **Conditional Use Permit**. Therefore, the proposed Project would not have a significant negative impact regarding land use.

As such, no new or more severe impacts associated with applicable land use plans, policies, and regulations would occur. Therefore, the level of impact would not change from the level identified in the EIR and no new mitigation measures are required.

c) ***Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with an adopted habitat conservation plan would occur.

Consequently, the proposed Project inclusive of the proposed changes would not conflict with the provisions of an adopted habitat conservation plan or natural community conservation plan. Therefore, no new or more severe impacts associated with an adopted habitat conservation plan would occur, the level of impact would not change from the level identified in the EIR and no new mitigation measures are required.

Conclusion

In conclusion, no new or more severe impacts associated with land use and planning would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to land use and planning.

3.11 Mineral Resources

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (No Impact)

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? (No Impact)

Proposed Project Significance Determination

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with loss of availability of a known valuable mineral resource would occur.

While mineral resources in the City have been identified by the Department of Conservation Division of Mines and Geology as potentially containing concrete aggregate resources consistent with the majority of the Barstow and Victorville areas, the City of Hesperia General Plan Conservation and Open Space Element indicates that the City currently has not identified any known mineral resources that would be of significant value. Therefore, no impacts associated with loss of availability of a known valuable mineral resource would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with loss of availability of a locally important mineral resource recovery site would occur.

As described in Section 3.11.1(a), the City of Hesperia has not identified any known mineral resource that would be of significant value in the General Plan. Therefore, no impacts associated with loss of availability of a locally important mineral resource recovery site would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with mineral resources would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to mineral resources.

3.12 Noise

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XII. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less-than-Significant Impact)*

b) *Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (Less-than-Significant Impact)*

c) *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (Less-than-Significant Impact)*

d) *Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (Less-than-Significant Impact)*

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (Less-than-Significant Impact)*

f) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (Less-than-Significant Impact)*

Proposed Project Significance Determination

The following analysis is based, in part, on the noise analysis prepared by Dudek; relevant noise data and input/output modeling data is included in this document as Appendix G.

a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact/No Substantial Change from Previous Analysis. The City's General Plan Noise Element includes goals and policies that pertain to protecting noise-sensitive land uses from noise impacts through compatible use with surrounding areas, incorporation of noise attenuation methods in the design and construction of commercial, industrial, office and mixed-use structures, and limitation of construction hours in the vicinity of residential areas (City of Hesperia 2010). Additionally, the City's Municipal Code establishes daytime and nighttime noise standards at receiving land uses. Ambient noise measurements were conducted at noise-sensitive land uses in the vicinity of the Project site on September 11,2023 and September 15,2023. Table 3-11 provides the location, date, and time the noise measurements were taken, as well as the minimum, maximum, and energy-averaged noise levels (L_{eq}). These locations are also depicted as ST1 through ST3 (short-term) on Figure 6. As shown in Table 3-11, ambient daytime noise levels ranged from approximately 55 to 65 A-weighted decibels (dBA) L_{eq} in the Project vicinity.

Table 3-11. Measured Short-Term Sound Level Data Summary

Site	Description	Date/Time	Sound Level Data (dBA)		
			L_{eq}	L_{min}	L_{max}
ST1	San Bernardino County Fire Station 305 (8331 Caliente Rd	9/11/2023 12:29 p.m.–12:44 p.m.	64.5	53.9	76.8
ST2	12301 Sage St (residential)	9/15/2023 12:09 p.m.–12:24 p.m.	54.6	50.3	66.4
ST3	12145 Mesquite St (residential)	9/15/2023 12:30 p.m.–12:45 p.m.	56.3	43.1	74.4

Source: Appendix G.
Notes: dBA = A-weighted decibel; L_{eq} = energy-averaged noise level; L_{min} = minimal noise level; L_{max} = maximum noise level.

Short-Term Construction Noise

Noise generated by Project construction equipment would include a combination of trucks, dozers, front end loaders, cranes, concrete mixers, and portable generators that, when combined, can reach high levels. The number and mix of construction equipment would likely vary during the following stages: demolition, site preparation, grading, building construction, paving, and architectural coating.

With the noise sources identified above, a noise analysis was performed using a spreadsheet-based version of the model developed by the Federal Highway Administration called the Roadway Construction Noise Model (FHWA 2008). Input variables for the Roadway Construction Noise Model consist of the receiver/land use types, the equipment type (i.e., backhoe, crane, truck, etc.), the number of equipment pieces, the duty cycle for each piece of equipment (i.e., percentage of each time period the equipment typically is in operation), and the distance between the construction noise source and the sensitive receiver.

Table 3-12 provides a summary of the construction noise levels by each construction phase at the nearest noise-sensitive receptor locations. The construction noise modeling details are provided in Appendix G. Based on the phases of construction; noise impacts associated with the Project could create temporarily

audible noise levels at nearby receptor locations. Noise-sensitive land uses in the vicinity of the Project include a fire station to the south (which likely includes firefighters' sleeping quarters) and residences to the east (approximately 1,900 feet from the Project site/nearest construction boundary). To assess worst-case construction noise levels, this construction noise assessment is focused on noise levels that would occur at the nearest noise-sensitive receivers; construction noise levels at other receivers further away from the site would be less. Thus, construction-related noise levels would be lower than the noise levels at the nearest noise-sensitive receivers shown in Table 3-12.

Table 3-12. Construction Noise Model Results Summary

Construction Phase	Construction Noise at Nearest Receiver Distances (L_{eq} [dBA])	
	Fire Station to the South	Residences to the East
	Typical Source/Receiver Distance (Approximately 700 feet)	Typical Source/Receiver Distance (Approximately 2,500 feet)
Demolition	64	53
Site Preparation	63	52
Grading	65	54
Building Construction	60	49
Paving	59	48
Architectural Coating	50	39

Source: Appendix G.
Notes: Leq = equivalent noise level; dBA = A-weighted decibel.

The City has set operational restrictions to control noise impacts associated with construction. The City of Hesperia Municipal Code, Section 16.20.125.E.3 exempts construction noise from its stationary-source noise level limits provided that construction takes place between the hours of 7:00 a.m. and 7:00 p.m. Monday-Saturday, and is not conducted at any time on Sundays and federal holidays. Although the City limits the hours of construction activity, it does not specifically address construction noise limits. To address noise from construction activities on the Project site, a daytime construction noise level threshold of 80 dBA L_{eq} was used, based upon guidance from the Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (FTA 2018).

Based on the Roadway Construction Noise Model analysis, Table 3-12 shows that average noise levels from construction activities would result in noise levels well below the construction noise level threshold of 80 dBA L_{eq} at nearby sensitive receiver locations within the City; furthermore, the estimated construction noise levels would be below or within the measured daytime ambient noise levels at the nearby noise-sensitive land uses, which ranged from approximately 55 to 65 dBA L_{eq}. Therefore, short-term impacts associated with construction noise would be less than significant and no new or more severe impacts would occur compared with the level identified in the HCC EIR. No new mitigation measures are required.

Long-Term Operational Noise

Long-term operational noise associated with the proposed Project includes on-site operational noise as well as Project-generated traffic off site. Each of these is addressed below.

On-Site Operational Noise

Less-than-Significant Impact. The implementation of the Project would result in changes to existing noise levels on the Project site by developing new stationary sources of noise, including introduction of outdoor heating, ventilation, and air conditioning (HVAC) equipment, and vehicle parking lot and truck loading dock activities. These sources may affect noise-sensitive vicinity land uses off the Project site. The following analysis evaluates noise from exterior mechanical equipment and activities associated with vehicle parking lots and truck loading docks. Dudek has modeled the propagation of sound from a combination of Project on-site noise sources with commercially available DataKustik CadnaA software, which incorporates relevant International Organization of Standardization 9613-2 algorithms and reference data that are generally considered to be industry standard for outdoor noise modeling. Key modeling assumptions and parameters are as follows:

- The model calculation area encompasses the Project and surrounding land uses that adjoin its boundary.
- Acoustical ground absorption of the Project site and the surrounding topography (conservatively modeled as flat, which generally approximates the site terrain characteristics) is set at 0.90, which on a zero (reflective) to one (absorptive) scale approximates a combination of the grass-covered soils that generally surround the Project area and any anticipated loosely graveled Project site cover.
- Meteorological conditions presume "calm" wind conditions (i.e., less than 0.5 meters per second in any direction) and average air temperature and relative humidity of 68 degrees Fahrenheit and 70%, respectively.
- The model "configuration" settings include reflection order set to "1," which can be interpreted to mean that a sound emission path from a source will continue to be analyzed after impingement upon and reflection from the first intervening structure or barrier.
- The proposed warehouse space overall would not be served by heating or air conditioning equipment. However, the floor plan includes office space at the southwestern corner of the warehouse building, which would total approximately 6,000 square feet. Based on information provided by the Project applicant, it is anticipated that the office space would be equipped with single-packaged rooftop HVAC units with air-handling capacity of 3 to 6 nominal tons. For the analysis of noise from HVAC equipment operation, a York Model ZF-048 package HVAC unit was used as a reference. Based upon the square footage of the office space, it was assumed that two such units would be required for each of the office areas. The York Model ZF-048 package HVAC unit has a sound power rating of 80 dBA (Johnson Controls 2015).
- During a daytime scenario, peak hour truck volumes were assumed.
- Sound power for a single truck at the loading dock was calculated from sound levels (dBA) of truck air brakes, truck backup alarms, truck idling, truck engine ignition and airbrakes, and truck acceleration from stop (Charles M. Salter 2014).
- Sound power for a single truck pass-by along a linear sound source route along the length of the building was calculated from truck passby (Charles M. Salter 2014). Peak hour truck volumes were assumed.
- During a nighttime model scenario, the sound power of rooftop HVAC sources from the three Project buildings remained unchanged; and, up to 25% of peak hour on-site truck traffic would occur during a typical nighttime hour of facility operation.

As shown in Table 3-13, which summarizes the results of the modeling for mechanical equipment and truck loading dock/truck yard activity noise, the resulting noise levels would not exceed the applicable noise standards for daytime or nighttime noise. Additionally, the estimated noise levels from the Project would be below the existing measured daytime ambient noise levels in the Project vicinity, which ranged from approximately 55 to 65 dBA L_{eq}.

Table 3-13. Mechanical Equipment and Truck Loading Dock/Truck Yard Activity Noise

Modeled Receptor	Daytime (7 a.m. to 10 p.m.) Noise Level (dBA L_{eq})	Nighttime (10 p.m. to 7 a.m.) Noise Level (dBA L_{eq})	Applicable Daytime/ Nighttime Noise Standard[1] (dBA L_{eq})	Applicable Standard Exceeded?
M1 – Fire Station to the south	39	35	65/65	No
ST2 – Residential to the east	30	25	60/55	No
ST3 – Residential to the southeast	31	25	60/55	No

Source: Appendix G.
Notes: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).
[1] Applicable exterior noise standard per City of Hesperia Municipal Code Section 16.20.125.

Parking Lot Activity

A comprehensive study of noise levels associated with surface parking lots was published in the Journal of Environmental Engineering and Landscape Management (Baltrënas et al. 2004). The study found that average noise levels during the peak period of use of the parking lot (generally in the morning with arrival of commuters, and in the evening with the departure of commuters), was 47 dBA L_{eq} at 1 meter (3.28 feet) from the outside boundary of the parking lot. During off-peak time periods, especially during nighttime hours (10:00 p.m. to 7:00 a.m.), noise levels from parking lot activities would be substantially lower. The parking lots would function as an area source for noise, which means that noise would attenuate at a rate of 3 dBA with each doubling of distance. The nearest employee parking lot to existing noise-sensitive receivers (receiver M1, the fire station to the south) is situated on the south side of the warehouse building, approximately 320 or more away. At a distance of 320 feet, parking lot noise levels would be approximately 27 dBA, which would be well below the daytime (7:00 a.m. to 10:00 p.m.) exterior residential noise standard of 60 dBA L_{eq} and the nighttime (10:00 p.m. to 7:00 a.m.) noise standard of 55 dBA L_{eq}.

To summarize, impacts associated with on-site operational noise would be less than significant.

Standby Generator

The proposed Project would include a standby generator that would be used in the event of a power failure. The standby generator would also periodically be tested to ensure that it is in good operating condition; typically, testing would occur on a monthly basis. Based upon the information provided, the generator would be in the 150-horsepower / 100 kW range. The location of the generator was modeled to be adjacent to the proposed electrical room, along the southeastern side of the proposed warehouse building. According

to the Project Description the generator selected will produce sound levels equivalent to or lower than 87 dBA as measured at a reference distance of 7 meters (23 feet), comparable to the Generac SD100 base level (i.e., without an enclosure, specifications of which are provided in Attachment C)).

As shown in Table 3-14, the combined on-site noise (rooftop mechanical, parking lot and truck loading dock noise, and standby generator) at the nearest noise-sensitive land uses would be below the applicable noise exposure limits and would be less than significant. Noise levels at other noise-sensitive land uses in the Project vicinity would be lower because the distance to these receivers is greater and there is a similar or greater amount of intervening structural noise shielding. No mitigation measures are required.

Table 3-14. Combined On-Site Noise Summary of Results – Noise Levels (dBA L_{eq}) at Nearest Noise-Sensitive Land Uses with Standby Generator

Modeled Receptor	Daytime (7 a.m. to 10 p.m.) Noise Level (dBA L_{eq})	Nighttime (10 p.m. to 7 a.m.) Noise Level (dBA L_{eq})	Applicable Daytime/ Nighttime Noise Standard[1] (dBA L_{eq})	Applicable Standard Exceeded?
M1 – Fire Station to the south	61	61	65/65	No
ST2 – Residential to the east	44	44	60/55	No
ST3 – Residential to the southeast	45	45	60/55	No

Source: Appendix G.
Notes: dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).
1 Applicable noise standard per Section 16.20.125 of the City of Hesperia Municipal Code.

Table 3-15 presents the combined Project-related noise levels without the standby generator compared to the measured existing noise level at the nearest noise-sensitive land uses (M1, ST2 and ST3 as shown in Figure 6. As shown, the combined Project noise combined with the measured ambient noise levels would be the same as the ambient noise level. There would be zero-dB increase as a result of the proposed Project at the nearest noise-sensitive receiver because the Project noise level would be much lower than the ambient noise level. Table 3-16 presents the combined Project-related noise levels with the standby generator operating compared to the measured existing noise levels at the nearest noise-sensitive land uses (M1, ST2 and ST3). As shown, the combined Project noise including operation of the standby generator would result in a maximum increase of 1.6 dB compared to the measured ambient noise level. Changes in noise level of 3 dB or less are not readily perceptible in the community environment (i.e., outside of a controlled listening room). The noise level increase associated with operation of the Project relative to the existing noise environment would be less than significant. No mitigation measures are required.

Table 3-15. Project-Related Noise Level Increase at Nearest Noise-Sensitive Land Uses without Standby Generator

Location	Existing Measured Ambient Noise Level (dBA L_{eq})	Combined HVAC, Parking Lot, and Truck Loading Dock Activities Noise (dBA L_{eq})	Combined Ambient plus Project Noise Level (dBA L_{eq})	Resulting Noise Level Increase (dB)
M1 – Fire Station to the south	64.5	39.3	64.5	0.0

Table 3-15. Project-Related Noise Level Increase at Nearest Noise-Sensitive Land Uses without Standby Generator

Location	Existing Measured Ambient Noise Level (dBA L_{eq})	Combined HVAC, Parking Lot, and Truck Loading Dock Activities Noise (dBA L_{eq})	Combined Ambient plus Project Noise Level (dBA L_{eq})	Resulting Noise Level Increase (dB)
ST2 - Residential to the east	54.6	30.4	54.6	0.0
ST3 - Residential to the southeast	56.3	30.6	56.3	0.0

Source: Appendix G.
Notes: HVAC = heating, ventilation, and air conditioning; dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).

Table 3-16. Project-Related Noise Level Increase at Nearest Noise-Sensitive Land Uses with Standby Generator

Location	Existing Measured Ambient Noise Level (dBA L_{eq})	Combined HVAC, Parking Lot, and Truck Loading Dock Activities Noise (dBA L_{eq})	Combined Ambient plus Project Noise Level (dBA L_{eq})	Resulting Noise Level Increase (dB)
M1 – Fire Station to the south	64.5	61	66.1	1.6
ST2 – Residential to the east	54.6	44.2	55	0.4
ST3 – Residential to the southeast	56.3	45.2	56.6	0.3

Source: Appendix G.
Notes: HVAC = heating, ventilation, and air conditioning; dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level (time-averaged sound level).

Off-Site Operational (Traffic) Noise

As documented in the proposed Project's Trip Generation Assessment memorandum (Urban Crossroads 2023), the proposed Project is expected to result in a net reduction in vehicle trips overall compared to the previously approved project. Table 5 of the memorandum (reproduced here as Table 3-17) shows that the net number of daily vehicle trips would be 1,170 fewer with proposed Project than with the previously approved project. On an hourly basis, the Project would result in a net reduction of 343 AM and 182 PM trips. During the AM peak hour, 262 fewer passenger car trips would occur, while 81 fewer truck trips would occur. During the PM peak hour, 1,260 fewer passenger car trips would occur, while 90 additional truck trips would occur. This relatively small increase in PM peak hour truck trips would be more than offset by the overall decrease in vehicles by all other compared metrics. The Project would not result in a doubling of trips. Typically, a doubling of the energy of a noise source, such as a doubling of traffic volume (a 100% increase), would increase noise levels by 3 dBA. Because the Project would not result in a significant

increase in traffic on local and regional roadways (and in fact would decrease volumes overall), the change in traffic noise due to the Project would not be significant. Therefore, impacts associated with off-site Project-generated traffic noise would be less than significant. No mitigation measures are required.

Table 3-17. Trip Generation Comparison: 2013 Approved Project versus Proposed Project

		AM Peak Hour			PM Peak Hour			
Land Use	Quantity Units[1]	In	Out	Total	In	Out	Total	Daily
Passenger Car Equivalent (PCE):								
Approved Project	3,545.792 TSF							
Passenger Cars:		576	136	712	190	503	693	7,736
Total Truck Trips (PCE):		184	62	246	70	164	234	3,228
Total Trips (PCE)[2]		760	198	958	260	667	927	10,964
Proposed Project	3,453.800 TSF							
Passenger Cars:		359	91	450	146	426	572	6,476
Total Truck Trips (PCE):		127	38	165	49	124	173	3,318
Total Trips (PCE)[2]		486	129	615	195	550	745	9,794
Net Change in Trips								
Passenger Cars		-217	-45	-262	-44	-77	-121	-1,260
Trucks		-57	-24	-81	-21	-40	-61	90
Net Change in Project Trips (PCE)[2]		**-274**	**-69**	**-343**	**-65**	**-117**	**-182**	**-1,170**

Note: Negative number indicates net reduction in trips.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

Source: Urban Crossroads 2023.

Accordingly, there would be no new significant impacts with regards to exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies and no substantial increase in the severity of any previously identified significant impact in the EIR. No new mitigation measures are required.

b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact/No Substantial Change from Previous Analysis. The main concern associated with groundborne vibration is annoyance; however, in extreme cases, vibration can cause damage to buildings, particularly those that are old or otherwise fragile. Some common sources of groundborne vibration are trains and construction activities such as blasting, pile-driving, and heavy earth-moving equipment. The primary source of groundborne vibration occurring as part of the Project is construction activity.

According to Caltrans, D-8 and D-9 Caterpillars, earthmovers, and trucks have not exceeded 0.10 inches/second peak particle velocity at 10 feet (Caltrans 2020). Since the closest off-site residence is located not closer than 1,900 feet, vibration levels from construction activities at the closest residence would be very small at approximately 0.00004 inches/second and thus would not exceed the significance threshold of 0.20 inches/second peak particle velocity. At the nearby fire station, sleeping quarters may exist within approximately 220 feet of Project construction. The estimated vibration level from construction at the fire station would be approximately 0.001 inches/second and would also be well below the significance threshold of 0.20 inches/second peak particle velocity. Vibration-sensitive instruments and operations may require special consideration during construction. Vibration criteria for sensitive equipment and operations are not defined and are often case specific. As a guide, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to vibration-sensitive operations (Caltrans 2020). There are no known vibration-sensitive facilities within 200 feet of the Project, and pile driving would not be employed in Project construction. Therefore, Project construction would not result in a significant impact associated with groundborne vibration.

Therefore, impacts associated with vibration levels would be less than significant and no new or more severe impacts would occur compared with the level identified in the EIR. No new mitigation measures are required.

c) Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Substantial Change from Previous Analysis. As discussed above in Section 3.12(a), the proposed Project would not result in substantial increases in ambient noise levels during operation. On-site operational noise from mechanical equipment and on-site vehicle activity would not result in significant increases in ambient noise levels. Off-site Project-related vehicle trip generation would be less than that of the previously approved project, with commensurately lower vehicle noise levels.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

No Substantial Change from Previous Analysis. As discussed above in Section 3.12(a), the proposed Project would not result in substantial increases in ambient noise levels during construction. The estimated construction noise levels would be below or within the measured daytime ambient noise levels at the nearby noise-sensitive land uses, which ranged from approximately 55 to 65 dBA L_{eq}.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with public airport noise would occur.

The closest airport to the Project site is Hesperia Airport, which is located more than 5 miles to the southeast. Therefore, less-than-significant impacts associated increase in the severity with public airport noise would occur, and there would be no new significant impacts and no substantial of any previously identified significant impact identified in the EIR.

f) ***For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with private airstrip noise would occur.

There are no private airstrips located in the Project area, and thus the Project would not expose people to excessive noise levels. The closest airport to the Project site is Hesperia Airport, which is located more than 5 miles to the southeast. Therefore, no impacts associated with private airstrip noise would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact identified in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with noise would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to noise.

3.13 Population and Housing

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XIII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (Less-than-Significant Impact)

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (No Impact)

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (No Impact)

Proposed Project Significance Determination

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with population growth would be less than significant.

The proposed Project consists of the construction of an industrial warehouse building. The proposed Project would not replace the originally proposed industrial uses with new businesses and no development of housing is proposed. The proposed improvements are not an expansion of capacity and would not directly induce population growth in the area. The proposed on-site land uses, operation and construction characteristics, and Project site (including the Project site boundary and the site's existing setting) will be the same as that already analyzed in the 2013 FEIR.

Therefore, impacts associated with population growth would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with displacement of substantial numbers of existing housing would occur.

No residential uses are currently located on the Project site. The Project site is vacant, undeveloped land. Thus, no housing would be displaced as a result of the Project. Therefore, no impacts associated with displacement of substantial numbers of existing housing would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact identified in the EIR.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with displacement of substantial numbers of people would occur.

As described in Section 3.13.1(b), the Project site does not presently contain residential uses, and thus does not support a residential population. Therefore, no impacts associated with displacement of substantial numbers of people would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with population and housing would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to population and housing.

No population and housing mitigation measures were required in the Program EIR.

3.14 Public Services

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XIV. PUBLIC SERVICES – Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection? (Less-than-Significant Impact)

ii) Police protection? (Less-than-Significant Impact)

iii) Schools? (Less-than-Significant Impact)

Iv) Parks? (Less-than-Significant Impact)

v) Other public facilities? (Less-than-Significant Impact)

Proposed Project Significance Determination

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i) Fire protection?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with fire protection would be less than significant.

Fire protection and emergency response services for the proposed Project would be provided by San Bernardino County Fire Department. As discussed in the EIR, Fire Station 305, which is adjacent to the Project, was built with the area's future growth in mind and can house 15 crew members at any given shift. No new or altered fire facilities are required to meet the required service ratio or response times. The proposed Project involves a similar population increase as was discussed in the approved EIR. Therefore, like the original EIR, the proposed Project would not induce substantial population growth, either directly or indirectly, such that additional fire protection would be needed.

Therefore, no new or more severe impacts associated with fire protection would occur, the level of impact would not change from the level identified in the EIR, and no new mitigation measures are required.

ii) Police protection?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with police protection would be less than significant.

As previously discussed in Section 3.14(a), the proposed changes would not result in any new increase in population and workers on the Project site or increase the demands for police protection services

when compared to existing conditions. Therefore, the proposed changes would not change the previous determination made by the HCC I EIR with regard to police protection services. In addition, the proposed Project would result in reconstruction of the existing HCC I site and would not expand the capacity of these uses such that additional population growth would occur and expansion of police services would be necessary.

Therefore, no new or more severe impacts associated with police protection facilities would occur, the level of impact would not change from the level identified in the HCC I EIR, and no new mitigation measures are required.

iii) Schools?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with schools would be less than significant.

The proposed changes to the HCC I EIR would not result in any new school demand when compared to the existing conditions. Therefore, the proposed changes would not change the previous determination made by the HCC I EIR with regard to schools. The proposed Project would not result in growth in the City's employee population, nor would it include new residential uses that could impact schools. The original EIR would result in the reconstruction of the previously approved project site but would not increase student enrollment through the construction of new housing or expansion of the City's workforce. As such, implementation of the HCC I EIR would not generate population growth or generate new students.

Therefore, no new or more severe impacts associated with school facilities would occur, the level of impact would not change from the level identified in the HCC I EIR, and no new mitigation measures are required.

iv) Parks?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with parks would be less than significant.

As mentioned above, the proposed Project would not result in growth in the City's employee population, nor would it include new residential uses that could impact parks. The proposed changes to the HCC I EIR would not result in any new demand for parks when compared to the existing conditions. Therefore, the proposed changes would not change the previous determination made by the HCC I EIR with regard to parks. Given the lack of population growth as a result of the HCC I Project, neither construction nor operation of the proposed Project would generate new residents to the extent that new or expanded park facilities would be required.

Therefore, no new or more severe impacts associated with recreational facilities would occur, and the level of impact would not change from the level identified in the HCC I EIR; no new mitigation measures are required.

v) Other public facilities?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with public facilities would be less than significant.

As discussed above, the proposed Project would not result in growth in the City's employee population, nor would it include new residential uses that could impact public facilities. Therefore, the proposed changes

would not change the previous determination made by the HCC I EIR with regard to other public facilities. Implementation of the proposed Project would not impact libraries or other public facilities. The Project is proposed would not generate new permanent residents in the City who would use public facilities. As such, the HCC EIR would not increase demand in capacity of existing libraries or other public facilities.

Therefore, no new or more severe impacts associated with other public facilities would occur, the level of impact would not change from the level identified in the HCC I EIR, and no new mitigation measures are required.

Conclusion

In conclusion, no new or more severe impacts associated with public services would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to public services.

3.15 Recreation

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (No Impact)

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (No Impact)

Proposed Project Significance Determination

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with the use of existing parks and recreational facilities would occur.

The Project site is located in the Highway 395/Interstate-15 District of the Main Street and Freeway Corridor Specific Plan, which is not intended to result in additional demand for recreational opportunities, but instead intended to create employment-generating uses in a business park setting. The kind of industrial uses envisioned in the district include light industrial, light manufacturing and industrial support uses, mainly conducted in enclosed buildings with minimal environmental impact. Additionally, the Project is not anticipated to trigger population growth, as the jobs created by the Project are expected to be filled with current residents of Hesperia and the surrounding High Desert Communities. Furthermore, the City of Hesperia currently has a surplus of parks and open space at more than 30 acres per 1,000 people and is anticipated to continue a similar trend at buildout.

Therefore, impacts associated with the use of existing parks and recreational facilities would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with new or expanded recreational facilities would occur.

The Project consists of development of light industrial, light manufacturing and industrial support uses within a business park setting. No new impacts would occur as a result of these on-site recreational facilities that have not already been identified and analyzed in the EIR. Therefore, impacts associated with new or expanded recreational facilities would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with recreation would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to recreation.

3.16 Transportation and Traffic

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XVI. TRANSPORTATION/TRAFFIC – Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) ***Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system,***

including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (Less-than-Significant Impact with Mitigation Incorporated)

b) Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? (Less-than-Significant Impact with Mitigation Incorporated)

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (No Impact)

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (No Impact)

e) Would the project result in inadequate emergency access? (No Impact)

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (Less-than-Significant Impact)

Proposed Project Significance Determination

The following analysis is based, in part, on the December 2024 Trip Generation Assessment prepared by Urban Crossroads and the October 2025 Focused Traffic Assessment prepared by Urban Crossroads and included as Appendix H and Appendix I, respectively.

a) Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

No Substantial Change from Previous Analysis. The EIR found that impacts would be less than significant with implementation of MM-TR-1 through MM-TR-12.

The proposed Project is anticipated to generate 1,170 fewer two-way trips per day with 343 fewer AM peak hour trips and 182 fewer PM peak hour trips as compared to the previously approved project (in Passenger Car Equivalents [PCE]). Therefore, no additional impacts are anticipated and, in some instances, would be less severe than previously identified. The EIR found that a less-than-significant impact will occur with regard to traffic as a result of Project implementation, with incorporation of Project-specific mitigation measures, as well as regional mitigation measures that will be implemented by other area projects and through the payment of City of Hesperia Developer Impact Fees (DIF) by the year 2035. The EIR identified *mitigation measures TR-1 through TR-5 and regional mitigation measures TR-6 through TR-12*.

A Focused Traffic Assessment (Urban Crossroads 2025) (Appendix I) was prepared for the Project which concluded that some mitigation measures identified in the EIR are not applicable to the Project due to previous implementation, the reduced square footage of the Project and resulting reduction in trip generation, as well as the construction of improvements at the I-15 and Ranchero Road interchange

changing traffic distribution patterns in the Project area. Appendix I determined mitigation measures TR-4 through TR 7 and TR-9 through TR-12 have either been constructed or are no longer necessary to reduce impacts to a less than significant level. Appendix I further found that TR-8 should be modified to require the Project to pay a "Fair Share" fee for improvements at the Joshua Tree and Mariposa Road intersection. The recommended changes to mitigation measures are provided below. Mitigation measures TR-1 through TR-3 would remain unchanged. With implementation of the mitigation measures, the Project would result in a less than a significant impact.

TR-4: ~~Joshua Street and Caliente Road. Install a Traffic Signal at the intersection and widen the northbound to accommodate a right turning lane, the southbound to accommodate a left turning lane, and a westbound to accommodate two additional left turning lanes. The northbound direction will be widened to provide a through and a right turning lane. The southbound direction will be widened to provide a through land and a left turning lane.~~

TR-5: ~~Highway 395 and Joshua Street. Joshua Street is to be widened to the west of the Highway 395. Joshua Street will be widened to provide two receiving lanes to accommodate the eastbound through traffic. The westbound approach to the intersection of Highway 395 and Joshua Street anticipated to be constructed by the Love's project as presented in mitigation measures TR-6 and TR-7 below.~~

TR-6: ~~Highway 395 and Joshua Street. All approaches are to be widened to accommodate additional lanes. The northbound direction is to be widened to include an additional through lane. The northbound lane configuration would include a left, three through lanes, and a right. The southbound direction to be widened is to include an additional left turning lane. The southbound lane configuration would include two left turn lanes, two through lanes, and a right. The eastbound lane configuration would include a left and a shared through right. The westbound direction is to be widened to include an additional left and an additional through lane. The westbound lane configuration would include two left turn lanes, two through lanes, and a right turn lane. The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project and are to be constructed to the Ultimate design.~~

TR-7: ~~Joshua Street and Outpost Road. install a traffic signal at the intersection to be coordinated with the Highway 395 and Joshua Street intersection, and widen the north, east, and westbound directions to accommodate additional lanes. The northbound direction is to be widened to accommodate a left and a right. The northbound lane configuration would include a left turning lane, a shared left through lane, and a right turn lane. The southbound lane configuration would include a shared left through lane and a right turn lane. The eastbound direction is to be widened to accommodate a left, an additional through lane, and a right. The eastbound lane configuration would include a left turning lane, two through lanes, and a right turning lane. The westbound direction is to be widened to accommodate a left, an additionally through lane, and a right. The westbound lane configuration would include two left turn lanes, two through lanes, and a right turning lane. The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project.~~

TR-8: Joshua Street and Mariposa Road. Pay "Fair Share" cost to ~~I~~install a traffic signal at the intersection and construct the northbound left turn lane ~~improve the eastbound direction left turning lane to be restriped to a shared left through lane~~. The north, south and westbound direction

includes a shared left-through-right turning lane. The eastbound direction right turning lane is restriped to a shared through-right lane. The eastbound direction is to be constructed with development. The eastbound direction will include a left turning lane and a shared through-right turning lane. ~~The southbound right, northbound left, and westbound through are to be constructed with development. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).~~

TR-9: ~~Oak Hill Road and I-15 Southbound Ramps. Install traffic signal at the intersection and improve the eastbound direction to be widened to accommodate a free right. The southbound direction includes a shared left through turning lane and a right. The eastbound direction is to be widened to accommodate a free right. The eastbound direction is to include a through lane and a free right turn. The westbound direction includes a shared left through turning lane. This future improvement will be funded by a combination of City of Hesperia Developer Impact Fee (DIF) and State Funds.~~

TR-10: ~~Main Street and I-15 Freeway Northbound Ramps. Widen the northbound direction to accommodate an additional right. The north bound direction is to include a left turning lane, a shared through right turning lane, and two right turn lanes. The eastbound direction includes three through lanes. The westbound includes three through lanes and a right turning lane. This future improvement will be funded by a combination of state and local funds.~~

TR-11: ~~Main Street and Mesa Linda Road. signalized the intersection and the east and westbound directions are to be widened. The northbound direction shared leftOright turning lane is to be restriped to a shared left through right turning lane. The eastbound direction is to be widened to accommodate a left turn lane. The eastbound direction includes a left, two through lanes, and a shared through right. The westbound direction a through lane is to be restriped to a shared through-right. The westbound direction includes left, a through, and a shared through right. The southbound direction is to be construction with development of the property north of Main Street. The southbound direction will include a shared left through right turning lane. The eastbound left and westbound right are to be constructed with development. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).~~

TR-12: ~~Poplar Road and Three Flags Road: Install traffic signal at the intersection and widen all directions. The northbound direction is to be widened to accommodate a left. The northbound lane configuration would include a left turn lane and a shared through Orght turn lane. The southbound lane configuration would include a left turn lane and a shared through right turn lane. The eastbound direction is to be widened to include a through lane and a left turning lane. The eastbound configuration would include a left turning lane, a through lane, and a share through-right lane. The westbound direction is to be widened to include a through lane and a right turning lane. The westbound lane configuration would include a left turning lane, a through lane, and a right turning lane. This future improvement will be funded by the City of Hesperia Developer Impact Fee (DIF).~~

Impacts of the proposed Project are considered less than significant with mitigation incorporated, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

b) ***Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?***

No Substantial Change from Previous Analysis. The EIR found that impacts would be less than significant with implementation of mitigation measure TR-1 through TR-3 and TR-8.

As stated above, the proposed Project is anticipated to generate 1,170 fewer two-way trips per day with 343 fewer AM peak hour trips and 182 fewer PM peak hour trips as compared to the previously approved project (in Passenger Car Equivalents [PCE]). Therefore, no additional impacts are anticipated and, in some instances, would be less severe than previously identified.

The EIR found that with the project-added traffic most of the existing study intersections would continue to operate at similar LOS D or better during both peak hours. However, the EIR found that the intersection of Highway 395 and Poplar Street is anticipated to operate at LOS "E" during the AM peak hour. Mitigation of the LOS E is not necessary for this intersection since it is a part of a major corridor. The intersections of Oak Hill Road and I-15 freeway southbound ramps and Mariposa Road and Oak Hill Road are anticipated to operate at a LOS E during the AM or PM peak hour. These intersections are identified as a part of a freeway interchange, and as such mitigation will not be required. The intersection of Caliente Road and Joshua Street is anticipated to operate at LOS F during the AM peak hour. However, the EIR noted that when the I-15 Interchange at Ranchero Road is completed, area traffic will be redistributed and the identified mitigation at this intersection will not be necessary. The I-15 and Ranchero Road interchange has since been constructed and therefore no mitigation is required.

To accommodate Project traffic, the EIR identified Project-specific traffic mitigations, some of which have already been implemented. As discussed above, Appendix I concluded that some mitigation measures identified in the EIR are not applicable to the Project due to previous implementation, the reduced square footage of the Project and resulting reduction in trip generation as well as the construction of improvements at the I-15 and Ranchero Road interchange. The Project-specific mitigation consists of the recommended improvements for Caliente Road along the Project frontage. Construction of the identified improvements will coincide with Project phasing. A less-than-significant impact will occur with regard to traffic impacts with incorporation of Project-specific mitigation measures TR-1 through TR-3 and regional mitigation measures TR- 8 as provided in Section 3.16 (a).

Impacts of the proposed Project are considered less than significant with mitigation incorporated, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) ***Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?***

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with air traffic patterns would occur.

The closest airport to the Project site is Hesperia Airport, which is located more than 5 miles to the southeast. The Project site is located outside of the Airport Impact Zones of Hesperia Airport (ALUC 1991). Therefore, impacts associated with air traffic patterns would be less than significant, and there would be no

new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with hazardous design features would occur.

Access to the Project site would be provided by one driveway on Caliente Road (West Driveway) and would be 50 feet wide with full access provided for passenger cars and trucks. The Project would also include off-site improvements that include street improvements along the frontage of the Project on Caliente Road.

As the Project continues through design review, detailed roadway improvements will continue to be developed in coordination with the City. These improvements would be overseen by the applicable lead agency and their qualified traffic engineers. This approach would ensure compliance with all applicable roadway design requirements. As such, no hazardous design features or incompatible uses would be part of the Project's roadway improvements or site access. Therefore, no impacts associated with hazardous design features would occur, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

e) Would the project result in inadequate emergency access?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with emergency access would occur.

Consistent with Hesperia Fire Department access requirements, all Project driveways have been designed to allow for minimum turning radii. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. All gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas. Therefore, the Project would have no impact on emergency access, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Substantial Change from Previous Analysis. The EIR found that no significant impacts associated with adopted policies, plans or programs would occur.

The Project would not conflict with policies, plans, or programs, regarding public transit, bicycle, and pedestrian facilities. The Project site plan has been designed to meet or exceed City development standards as provided in the General Plan, Municipal Code and Specific Plan, including adopted policies, plans or programs supporting alternative transportation. Necessary bus turnouts, bicycle racks, and other standards supportive of alternative transportation will be provided for the Project and no mitigation measures are required. The Project also would not impede the ability to maintain or enhance the performance of the multimodal transportation system in the future. Therefore, the Project would have a less-than-significant

impact on adopted policies, plans or programs, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR required the following applicable mitigation measures related to transportation and traffic, which remain applicable:

TR-1: Caliente Road and Project Driveway #1. Provide a stop sign for the project driveway exit and widen Caliente Road along the project frontage to provide turning lanes. The northbound direction is to be widened to include a left, an additional through lane, and a shared right-through lane. The northbound lane configuration would include a left, two through lanes, and a shared through-right lane. The southbound configuration would include a left, a through, and a shared through-right lane. The eastbound direction is to provide a shared left-through land and a right turning lane. The westbound direction is to provide a left turning lane and a shared through-right lane.

TR-2: Caliente Road and Project Driveway #2. Provide a stop sign for the project driveway exit and widen Caliente Road along the project frontage to provide turning lanes. The northbound direction is to be widened to include a left and two additional through lanes. The northbound lane configuration would include a left and three through lanes. The southbound direction is to be widened to include a shared right-through lane. The southbound configuration would include two through lands, and a shared right-through lane. The eastbound direction is to provide a left turning lane and a right turning lane.

TR-3: Caliente Road and Project Driveway #3. Install a Traffic Signal at the intersection and widen Caliente Road along to provide turning lanes. The northbound direction is to be widened to include a left and two additional through lanes. The northbound lane configuration would include a left and three through lanes. The southbound direction is to be widened to include an addition through lane and a shared right-through lane. The southbound configuration would include two through lanes, and a shared right-through lane. The eastbound direction is to provide a left turning lane and a right turning lane.

TR-8: Joshua Street and Mariposa Road. Pay “Fair Share” cost to install a traffic signal at the intersection and construct the northbound left turn lane. The north, south and westbound direction includes a shared left-through-right turning lane. The eastbound direction right turning lane is restriped to a shared through-right lane. The eastbound direction is to be constructed with development. The eastbound direction will include a left turning lane and a shared through-right turning lane.

3.17 Utilities and Service Systems

	New Significant Impact	More Severe Impacts	New Ability to Substantially Reduce Significant Impact	No Substantial Change from Previous Analysis
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Previous Significance Determination

The Hesperia Commerce Center EIR determined that the development of the previously approved project would result in the following:

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (Less-than-Significant Impact)

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (Less-than-Significant Impact)

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (Less-than-Significant Impact)

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (Less-than-Significant Impact)

e) Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (Less-than-Significant Impact)

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? (Less-than-Significant Impact)

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste? (Less-than-Significant Impact)

Proposed Project Significance Determination

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

and

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with wastewater treatment requirements and facilities would be less than significant.

The Project would connect to existing sewage lines and would discharge into the Victor Valley Wastewater Reclamation Authority's regional treatment facility and are maintained and operated by the Hesperia Water District. Within the immediate vicinity of the Project site, existing sewer lines include a gravity line starting east of U.S. Highway 395 in line with Caliente Road (to the west of the Project site). The City's Urban Water Management Plan indicates that there will not be any shortfalls through and including the year 2030 (City of Hesperia 2010). As discussed in the EIR, the Project proponent will pay applicable fees to connect to the existing sewer system; these fees contribute to system maintenance and capacity improvements. Therefore, impacts associated with wastewater treatment requirements and facilities would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with storm water drainage facilities would be less than significant.

The Project would include a new engineered stormwater drainage system to collect and treat on-site stormwater. Post-development, stormwater flows would be captured on site and treated within an

underground infiltration facility and conveyed via sheet flows away from buildings and where possible, through below-grade, landscaped areas prior to entering the underground chamber. The landscaped areas would act as the first filter for detaining suspended solids in stormwater flows. The Project and its new stormwater drainage system would capture and attenuate stormwater consistent with City and San Bernardino County stormwater requirements, including requirements in the San Bernardino County Hydrology Manual and Mojave Watershed Technical Guidance. In addition, it would attenuate flows beyond what is required. Specifically, the Project's stormwater system has been designed such that it would retain and infiltrate the entire volume generated from a 100-year storm event, and no stormwater runoff would be released off site during this event. Therefore, impacts associated with storm water drainage facilities would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with water supplies would be less than significant.

In 2021, the District prepared the 2020 Urban Water Management Plan, which provides the supplier's elected officials, management, staff, and customers with an understanding of past, current, and future water conditions and management. According to the 2020 Urban Water Management Plan, Hesperia has reliable supplies to meet its retail customer demands in normal, single dry years, and five consecutive dry year conditions through 2045 (Hesperia Water District 2021). A Water Supply Assessment was prepared for the previously approved project and concluded that the project would not exceed water production levels and would not impact water supply for existing and planned uses. The currently proposed Project is within the same footprint as the previously approved project and would demand similar water supplies as was discussed in the EIR. Therefore, impacts associated with water supplies would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

e) Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Substantial Change from Previous Analysis. The EIR found that impacts associated with wastewater would be less than significant.

The EIR concluded that the Project's increase in wastewater was considered as part of the General Plan. Sanitary sewer service would be provided by the Hesperia Water District. Within the immediate vicinity of the Project site, existing sewer lines include a gravity line starting east of U.S. Highway 395 in line with Caliente Road (to the west of the Project site). Therefore, impacts associated with wastewater would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

f) ***Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?***

No Substantial Change from Previous Analysis. The EIR found that impacts associated with the Project's solid waste disposal needs would be less than significant.

The City's solid waste/sanitation services are administered by Advance Disposal, which also operates a Materials Recovery Facility (Advance Disposal Co. 2023). The EIR concluded that the Victorville Sanitary Landfill is equipped to meet the current and future needs of the City. The currently proposed Project would be the same use and within the same location as the previously approved project and would produce similar solid waste as was discussed in the EIR. Therefore, impacts associated with solid waste would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

g) ***Would the project comply with federal, state, and local statutes and regulations related to solid waste?***

No Substantial Change from Previous Analysis. The EIR found that impacts associated with federal, state, and local statutes and regulations related to solid waste would be less than significant.

As discussed in the EIR, the City is in compliance with the California Integrated Waste Management Act of 1989, Assembly Bill 939, which identified a new goal of 75% waste diversion by the year 2020. The City exceeds the minimum requirements of the Integrated Waste Management Act, and the County landfill has the ability to accept all solid waste that is not recycled or reused. Therefore, impacts associated with federal, state, and local statutes and regulations related to solid waste would be less than significant, and there would be no new significant impacts and no substantial increase in the severity of any previously identified significant impact in the EIR.

Conclusion

In conclusion, no new or more severe impacts associated with utilities and service systems would occur, and the level of impact would not change from the level identified in the Hesperia Commerce Center EIR. No new mitigation measures are required.

Existing Mitigation Measures Applicable to Proposed Project

The Hesperia Commerce Center EIR did not require any mitigation measures related to utilities and service systems.

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Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
AQ-1: Prior to Project site construction activities, and prior to issuance of grading permits for each phase of the Project, a Dust Control Plan (DCP) shall be submitted to, and verified by, the City's Building Division. The DCP shall identify actions that the property owner and/or the Project contractor shall utilize to reduce on- and off-site dust production consistent with MDAQMD guidelines. Dust Control mitigation measures for the Project shall include: ▪ A Dust Control Plan shall be included as a component within the Storm Water Pollution Prevention Plan (SWPPP) and erosion control plan through the civil plans submitted to and approved by the Engineering Department and the grading plans submitted to and approved by both the Engineering and the Building Division prior to the start of construction activities. ▪ Disturbed Areas: The construction contractor shall effectively stabilize for fugitive dust control all disturbed areas that are not being actively used for construction purposes, or use water or nontoxic chemical stabilizers/suppressants. ▪ Storage Piles: The construction contractor shall apply water or nontoxic chemical stabilizers/suppressants for fugitive dust control, or cover storage piles with a tarp or other suitable cover or vegetative ground cover. Following the addition of materials to or the removal of materials from the surface of outdoor storage piles, said piles shall be effectively stabilized for fugitive dust emissions, using sufficient water or nontoxic chemical stabilizer/suppressant. ▪ Unpaved Roads: The construction contractor shall effectively stabilize for fugitive dust control all on-site unpaved roads and off-site unpaved access roads using water or nontoxic chemical stabilizers/suppressants. ▪ General Watering: The construction contractor shall control fugitive dust emissions during land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities by watering the construction site a minimum of two times daily when soil conditions are dry. ▪ Dirt Hauls: When materials are transported off-site, the construction contractor shall ensure that all material is covered or effectively wetted to limit visible dust emissions, and at least 24 inches of freeboard space from the top of containers shall be maintained.	Prior to issuance of Grading Permits.	City Building Division.	City Building Division.	Submittal of a Dust Control Plan concurrent with review and approval of grading plans.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
▪ Dirt Carryout/Trackout: The construction contractor shall install and maintain an approved carryout and trackout prevention procedure (e.g., grizzlies, gravel pads, paved interior roads) at the construction ingress/egress. The construction contractor shall remove mud or dirt that has accumulated on adjacent public streets at the end of each workday. In addition, carryout/trackout shall be immediately removed when it extends 50 feet or more beyond the site exit. Carryout/trackout shall be removed by manually sweeping, using a rotary brush broom accompanied or preceded by sufficient wetting, operating a PM10-efficient street sweeper with a minimum pick-up efficiency of 80 percent, or flushing with water if curbs or gutters are not present and where the use of water will not be a source of trackout material or result in adverse impacts on stormwater drainage systems. ▪ Unpaved Road Speeds: The construction contractor shall limit traffic speeds on unpaved roads to 15 mph. ▪ Erosion Control: The construction contractor shall install gravel bags or other erosion-control measures to prevent silt runoff to public roadways from sites with a slope greater than one (1) percent during ground-disturbing activities. ▪ High Winds: The construction contractor shall suspend excavation and grading activity when winds exceed 20 miles per hour. ▪ Continuously mist the work area. ▪ Install wind barriers around the work area. ▪ Clean or decontaminate equipment and vehicles to ensure that no equipment or workers track soil out of the work area (a gravel pad, tire shaker, or wheel wash system may be used to clear soil from vehicles).				
AQ-2: During grading and construction activities, the property owner or Project contractor shall submit a signed 'Construction Materials and Equipment Report' once every three months to the City Building Division. To mitigate impacts upon air quality, this report shall document the past three months' performance, the planned performance for the next three months and certify property owner and Project contractor compliance with the following: ▪ Construction materials shall be received during off-peak travel periods, between 8:30 a.m. and 4:00 p.m. A written explanation for any non-compliance shall be submitted by the offending party to the City Building and Planning Divisions. ▪ Lane closures and detours shall be limited to off-peak travel periods between 8:30 a.m. and 4:00 p.m., whenever possible.	During grading and building construction activities.	City Building Division.	City Building Division.	Property owner or project contractor to submit a 'Construction Materials and Equipment Report' once every three months to the City Building Division.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
▪ Verification by the property owner or Project contractor that the construction equipment on the Project site during the preceding three months, that is currently on the site, and that is anticipated to be on the site during the next three months. The property owner or Project contractor shall certify that all such equipment has been selected for use based on low emission and high-energy efficiency factors, including that such equipment has received a tune-up (or equivalent work) to assure low NOx emissions within six months preceding delivery to the Project site, and at least once a year thereafter.				
BIO-1: Pre-Construction Surveys. The property owner or Project contractor will be responsible for scheduling vegetation clearing and grading activities outside of the typical avian nesting season (February 1 to August 31) to the maximum extent practical in order to comply with the Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Game Code. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the MBTA and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate buffer established around the nest, which will be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall also be conducted when construction occurs in close proximately to an active nest buffer. No Project activities may encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined the nestlings have fledged and the nest is no longer considered active. In addition, a pre-construction survey for burrowing owls shall be conducted by a City approved, licensed biologist no more than 14 days prior to commencement of grading, with a second survey within 24 hours of commencement of grading, and results shall be submitted to and approved by the Planning Division prior to issuance of a grading permit. The survey shall be conducted according to the recommended guidelines of the California Burrowing Owl Consortium (1993) and in consultation with the California Department of Fish and Wildlife (CDFW). If burrowing owls are detected, a Burrowing Owl Protection Plan shall be prepared in consultation with CDFW. The Burrowing Owl Relocation Plan will include that disturbance to burrows shall be avoided during the nesting season (February 1 through	Within 30 days prior to ground-disturbing activities.	City Planning Division.	City Planning Division approved licensed biologist.	Submittal and approval of a burrowing owl survey.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
August 31). Buffers will be established around occupied burrows in accordance with guidance provided in the Staff Report on Burrowing Owl Mitigation or current version. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed. Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project site and within a buffer zone by installing one-way doors in burrow entrances. These doors will be placed at least 48 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat will be provided following the guidance in the Staff Report on Burrowing Owl Mitigation or current version. Where possible, burrows will be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow.				
BIO-2 Desert Plants and Joshua Trees. Prior to the issuance of grading permits, the property owner or Project contractor shall submit an application and applicable fee paid to the City for removal or relocation of protected native desert plants under Hesperia Municipal Code Chapter 16.24 as required and schedule a pre-construction site inspection with the Planning Division and the Building Division. The application shall include certification from an appropriate tree expert or native desert plant expert to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the City's Municipal Code. Protected plants subject to Hesperia Municipal Code Chapter 16.24 may be relocated on site or within an area designated as an area for species to be adopted later. The application shall include a detailed Native Desert Transplant Plan for removal of all protected plants on the project site. The plan shall be prepared by an appropriate tree expert or desert native plant expert recognized as qualified to conduct the survey by the City, and shall include but not be limited to the following measures: ▪ If plants are to be transplanted on-site, they must be watered at the time of transplantation, either to the permanent relocation on-site or the stockpile area, and monthly, as necessary. The schedule of watering will be determined by the tree expert or desert native plant expert to maintain plant health. Watering of the transplanted plants will continue until it has	Prior to issuance of Grading Permits.	City Planning Division.	Tree expert or desert native plant expert approved by City Planning Division.	Submittal of application and fee for removal and relocation of protected native desert plants, including submittal of a Native Desert Transplant Plan.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
been determined that the transplants have become established in the permanent relocation area and no longer require supplemental watering. Mitigation for direct impacts to 35 western Joshua tree individuals will be fulfilled through payment of the elected fees as described in Section 1927.3 of the Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $2,500 for each western Joshua tree 5 meters or greater in height, $500 for trees 1 meter or greater but less than 5 meters in height, and $340 for each western Joshua tree less than 1 meter in height. California Department of Fish and Wildlife (CDFW) determines the final fee. Alternatively, mitigation will occur through off-site conservation or through a CDFW-approved mitigation bank, or as required by a Section 2081 Incidental Take Permit, if received.				
BIO-3: Designated Biologist and Best Management Practices. During Project grading activities, the limits of grading and construction activities within the project footprint shall coincide with the Project footprint. The area to be graded shall be clearly delineated with temporary staking, flagging, or similar objects by the property owner or Project contractor. Grading of the Project footprint should be minimized to the greatest extent feasible and access to it should be via pre-existing/maintained access routes to the greatest extent possible. The Designated Biologist shall have authority to immediately stop any activity that does not comply with the biological resources mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of an individual western Joshua tree. The Designated Biologist shall be on site daily when impacts occur. The Designated Biologist shall conduct compliance inspections to minimize incidental take of western Joshua trees and impacts to other sensitive biological resources; prevent unlawful take of western Joshua trees; and ensure that signs, stakes, and fencing are intact and that impacts are only occurring inside the permitted impact footprint. Weekly written observation and inspection records that summarize oversight activities and compliance inspections and monitoring activities required by the Incidental Take Permit shall be prepared. Construction Monitoring Notebook. The Designated Biologist shall maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all personnel who have successfully completed the education program. The permittee shall ensure that a copy of the construction monitoring notebook is	During grading activities.	City Planning Division.	City Building Division.	Property owner or project contractor to delineate area to be graded with temporary staking, flagging, or similar objects.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
available for review at the Project site upon request by the California Department of Fish and Wildlife. Education Program. An education program (Worker Environmental Awareness Program [WEAP]) for all persons employed or otherwise working in the Project site shall be administered before performing impacts. The WEAP shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and status of western Joshua tree, burrowing owl, and loggerhead shrike and other biological resources mitigation measures described in the California Environmental Quality Act document. Interpretation for non-English-speaking workers will be provided, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project site. Upon completion of the WEAP, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees who will be conducting work in the Project site. Lighting. Lighting for construction activities and operations within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife will be directed away from natural areas. Invasive Plant Management. To reduce the spread of invasive plant species, landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php). After construction, the Project applicant shall continually remove invasive plant species on site by hand or mechanical methods, as feasible. Trash and Debris. The following avoidance and minimization measures shall be implemented during Project construction: (1) Fully covered trash receptacles that are animal-proof will be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the Project site. (2) Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis.				
CR-1: Although the cultural resources survey was conducted in as thorough a manner as possible, there is always the possibility that previously unidentified archaeological resources could be discovered during Project construction. Prior to the issuance of	During grading activities.	City Planning Division.	City Planning Division approved qualified archaeologist.	Property owner or project contractor to submit written documentation indicating the

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
grading permits, the property owner or Project contractor will be responsible to retain the services of a qualified archaeologist, who shall monitor grading activities during Project construction. In the event that any prehistoric or historic-period cultural resources (chipped or ground stone lithics, animal bone, ashy midden soil, structural remains, historic glass or ceramics, etc.) are discovered, the Project contractor will be responsible to cease all work in the vicinity and wait until the archaeologist has evaluated the significance of the find and has removed the resource as required by law. All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, Tribal representative. Necessity of training attendance should be stated on all construction plans. In consideration of the general sensitivity of the proposed Project site for cultural resources, a qualified archaeologist should be retained to conduct spot monitoring as well as on call response in the case of an inadvertent discovery of archaeological resources. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the SCCIC with the results of the cultural monitoring program. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find				services of a qualified archaeologist has been retained and will monitor grading activities during project construction.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a Tribal representative may be necessary. Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the proposed Project area based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Any associated laboratory and museum curation fees are the responsibility of the project proponent/applicant.				
CR-2: If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made necessary findings as to origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. The following actions must be taken by the property owner or Project contractor in the event that human remains are discovered on private or State land: ▪ Stop work immediately and contact the County Coroner. The County Coroner must be notified immediately of the find. ▪ The Coroner has two working days to examine the human remains after being notified. If the remains are determined to be prehistoric or Native American, the coroner shall notify the Native American Heritage Commission within 24 hours.	During all grading and ground disturbing construction activity.	City Planning Division; Native American Heritage Commission.	County Corner; Project contractor	Property owner or project contractor to submit Coroner's Report and/or report prepared by Native American Heritage Commission (if applicable) to City Planning Division.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
▪ The Native American Heritage Commission will immediately notify the person it believes to be the most likely descendent (MLD) of the deceased Native American. With the permission of the landowner, agency, or an authorized representative, the MLD may inspect the site of the discovery. ▪ The MLD shall make a recommendation to the owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods. If the commission is unable to identify a descendent, the descendent identified fails to make a recommendation, or the landowner rejects the recommendations of the descendent and the mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the descendent or the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with the Native American burial(s) with appropriate dignity on the property in a location not subject to further subsurface disturbance.				
GHG-1: The property owner or Project contractor shall implement General Plan Policies CN-7.4, CN-7.7, VN-7.8 and VN-7.9 to the extent feasible during project construction and operations. Specifically, construction drawings and building specifications submitted and approved by the Building and Planning Divisions shall include the following measures as applicable: ▪ Passive day-lighting of facilities ▪ Cool roofs ▪ Cool pavement ▪ Xeriscaping ▪ Energy efficient appliances ▪ Carpooling program ▪ Installation and use of facility power instead of Transport Refrigeration Units (TRUs) if applicable. ▪ EPA SmartWay Program for trucks to increase fuel savings through low resistance tires, improved aerodynamics, retrofit technologies and idle reduction technologies.	Prior to issuance of Building Permits.	City Building and Planning Divisions.	City Building and Planning Divisions.	Review and approval of building plans.
WQHYDRO-1: Building plans submitted to and approvable by the Building Division shall be designed so that infrastructure associated with the proposed Project is situated outside jurisdictional areas of streams and drainages (e.g., channels and banks). A conservation easement shall be recorded within a drainage easement, which will ultimately become a trail down the middle of the Oro Grande Wash. No buildings or structures will be permitted within the easement, which shall be maintained as close to its natural state as possible.	Prior to issuance of Building Permits.	City Building and Planning Divisions.	City Building and Planning Divisions.	Review and approval of building plans.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
WQHYDRO-2: The property owner and future building tenants shall provide employee training concerning water quality and site management (as is required in the WQMP). Employee training information shall be submitted to the City Building and Planning Divisions prior to issuance of final occupancy permits.	Prior to issuance of Final Occupancy Permits.	City Building Division.	City Building and Planning Divisions.	Property owner or project contractor to submit written documentation indicating water quality and site management training information consistent with WQMP has been distributed to employees and tenants.
WQHYDRO-3 Landscape plans submitted for the Project shall be designed to include drought- tolerant or xeriscape landscaping. Plans will be reviewed and approved by the Building and Planning Divisions prior to issuance of final occupancy permits.	Prior to issuance of Final Occupancy Permits.	City Building and Planning Division.	City Building and Planning Division.	Review and approval of landscape plans.
WQHYDRO-4: During project construction and operation, the property owner or Project contractor will be required to use or store hazardous materials in a safe manner and at an appropriate distance from known or identified natural drainages. Material Safety Data Sheets shall be made available to all site workers for cases of emergency.	Prior to issuance of Final Occupancy Permits.	City Building Division.	City Building Division.	Property owner or project contractor shall produce copies of Material Safety Data Sheets when requested.
WQHYDRO-5: The property owner or Project contractor will be required to provide a note on Project grading plans to identify that any disturbed areas associated with temporary construction will be returned to original conditions (to the extent possible) after completion of Project construction.	Prior to issuance of Grading Permits.	City Building Division.	City Building and Planning Division.	Applicable note to be proved on approved grading plan.
WQHYDRO-6: Drainage control features, including on-site retention facilities, would be installed where appropriate, as well as other stormwater protection measures included, such as filters to remove oils, grease and other contaminants, as part of the SWPPP and WQMP documents.	Prior to issuance of Final Occupancy Permits.	City Building Division.	City Building and Planning Division.	Installation of approved drainage control features as identified on approved grading and building plans.
WQHYDRO-7: Stormwater drainage inside the Proposed Project boundaries would be designed to minimize erosion and to provide for sediment control. Drainage control measures will be applied that would discharge no greater surface run-off as the existing conditions to prevent erosion of down-slope properties. Final design of the site drainage would be subject to the conditions of the grading permit.	Prior to issuance of Final Occupancy Permits.	City Building Division.	City Building and Planning Division.	Installation of approved drainage control features as identified on approved grading and building plans.
TR-1: Caliente Road and Project Driveway #1; Provide a stop sign for the project driveway exit and widen Caliente Road along the project frontage to provide turning lanes. The northbound direction is to be widened to include a left, an additional through lane, and a shared right-through lane. The northbound lane configuration would include a left, two through lanes, and a shared through-right lane. The southbound configuration would include a left, a through, and a shared through-right lane. The eastbound direction is to	Prior to final occupancy permit.	City Building and Engineering Division.	City Building and Engineering Division.	Installation of stop sign and roadway improvements as required.

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
provide a shared left-through land and a right turning lane. The westbound direction is to provide a left turning lane and a shared through-right lane.				
TR-2: Caliente Road and Project Driveway #2; Provide a stop sign for the project driveway exit and widen Caliente Road along the project frontage to provide turning lanes. The northbound direction is to be widened to include a left and two additional through lane. The northbound lane configuration would include a left and three through lanes. The southbound direction is to be widened to include a shared right-through lane. The southbound configuration would include two through lanes, and a shared right-through lane. The eastbound direction is to provide a left turning lane and a right turning lane.	Prior to final occupancy permit.	City Building and Engineering Division.	City Building and Engineering Division.	Installation of stop sign and roadway improvements as required.
TR-3: Caliente Road and Project Driveway #3; Install a Traffic Signal at the intersection and widen Caliente Road along to provide turning lanes. The northbound direction is to be widened to include a left and two additional through lane. The northbound lane configuration would include a left and three through lanes. The southbound direction is to be widened to include an additional through lane and a shared right-through lane. The southbound configuration would include two through lanes, and a shared right-through lane. The eastbound direction is to provide a left turning lane and a right turning lane.	Prior to final occupancy permit.	City Building and Engineering Division.	City Building and Engineering Division.	Installation of stop sign and roadway improvements as required.
TR-4: Removed				
TR-5: Removed				
TR-6: Removed				
TR-7: Removed				
TR-8: Joshua Street and Mariposa Road; Pay “Fair Share” cost to install a traffic signal at the intersection and construct the northbound left turn lane, improve the eastbound direction left turning lane to be restriped to a shared left-through lane. The north, south and westbound direction includes a shared left-through-right turning lane. The eastbound direction right turning lane is restriped to a shared through-right lane. The eastbound direction is to be constructed with development. The eastbound direction will include a left turning lane and a shared through-right turning lane.	Prior to the Year 2035.	City Building and Engineering Division.	City Building and Engineering Division.	Installation of regional traffic signal and roadway improvements or payment of an amount determined by the City for fair share in lieu fees.
TR-9: Removed				
TR-10: Removed				
TR-11: Removed				

Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action
TR-12: Removed				

4 References and Preparers

4.1 References Cited

Advance Disposal Co. 2023. About Us. Accessed November 2023. https://www.advancedisposal.com/about-us.

ALUC (Airport Land Use Commission). 1991. Comprehensive Land Use Plan Hesperia Airport. http://www.sbcounty.gov/Uploads/lus/Airports/Hesperia.pdf.

Baltrënas, Pranus et.al. (Pranas Baltrënas, Dainius Kazlauskas, and Egidijus Petraitis). 2004. Testing on noise level prevailing at motor vehicle parking lots and numeral simulation of its dispersion, Journal of Environmental Engineering and Landscape Management, 12:2, 63`-70

BLM (Bureau of Land Management). 1980. Desert Conservation Area Plan. 1980. Accessed December 2023. https://eplanning.blm.gov/public_projects/lup/66949/82080/96344/CDCA_Plan.pdf.

BLM. 2005. West Mojave Plan: A Habitat Conservation and California Desert Conservation Area Plan Amendment. Final Environmental Impact Report and Statement. Vols. 1 and 2. https://eplanning.blm.gov/eplanning-ui/project/72544/570.

BLM. 2016. Land Use Plan Amendment to the California Desert Conservation Plan, Bishop Resource Management Plan, and Bakersfield Resource Management Plan. BLM/CA/PL-2016/03+1793 +8321. Prepared by the BLM. Sep 2016.

CAL FIRE (California Department of Forestry and Fire Protection). 2023. Fire Hazard Severity Zones Viewer. Accessed July 13, 2023. https://egis.fire.ca.gov/FHSZ/.

Caltrans (California Department of Transportation). 2018. CA State Scenic Highway System Map https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

Caltrans. 2020. Transportation and Construction Vibration Guidance Manual. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, CA. April 2020.

CARB(California Air Resources Board). 2008. Climate Change Scoping Plan: A Framework for Change. December 2008. Accessed December 2023. https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

CARB. 2014. “Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation.” August 29, 2014. Accessed April 19, 2017. http://www.arb.ca.gov/msprog/onrdiesel/documents/FSRegSum.pdf.

CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January 20. Accessed January 2019. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2021. “Ambient air quality data” [digital CARB data]. iADAM: Air Quality Data Statistics. Accessed September 2021. http://www.arb.ca.gov/adam/topfour/topfour1.php.

CARB 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Accessed March 2023. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf

CDFW. 2012. Staff Report on Burrowing Owl Mitigation, State of California Natural Resource Agency, Department of Fish and Game, May 7, 2012.

Charles M. Salter 2014. Midpoint at 237 Loading Dock Noise Study. March 27, 2014.

City of Hesperia. 2010. City of Hesperia General Plan Update. Adopted 2010. https://www.cityofhesperia.us/DocumentCenter/View/15728/General-Plan-Update-August-2019.

City of Hesperia. 2021. Hesperia Main Street and Freeway Corridor Specific Plan. Adopted October 16, 2008. Amended July 15, 2021. https://www.cityofhesperia.us/DocumentCenter/View/15940/MSFCSP-update

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

DTSC (Department of Toxic Substances Control). 2023. EnviroStor. Accessed November 22, 2023. https://envirostor.dtsc.ca.gov/public/map/?global_id=38330005.

EPA (U.S. Environmental Protection Agency). 2021. “Region 9: Air Quality Analysis, EPA Region 9 Air Quality Maps and Geographic Information.” Last updated June 10, 2021. Accessed November 17, 2021. https://www3.epa.gov/region9/air/maps/index.html.

FEMA (Federal Emergency Management Agency). 2008. National Flood Insurance Program Flood Insurance Rate Map, Map Number 06071C6475H.

FHWA (Federal Highway Administration). 2008. Roadway Construction Noise Model (RCNM), Software Version 1.1. U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division. December 2008.

FTA (Federal Transit Administration). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

Hart, E. W., and Bryant, W. A.,1997, “Earthquake Hazard Zones in California” California Division of Mines and Geology Special Publication 42Hesperia Water District. 2021. 2020 Urban Water Management Plan. June 2021. https://www.cityofhesperia.us/DocumentCenter/View/17573/Draft-2020-Urban-Water-Management-Plan?bidId=

MDAQMD (Mojave Desert Air Quality Management District). 1976. Rule 402 – Nuisance. May 7, 1976. http://mdaqmd.ca.gov/home/showdocument?id=290.

MDAQMD (Mojave Desert Air Quality Management District). 2008. Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-Attainment Area). Adopted June 9, 2008. Accessed November 2021.

MDAQMD. 2020. "MDAQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines." MDAQMD, Planning, Rule Making and Grants Section, Air Monitoring Section. February. Accessed November 17, 2021. https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/638126583450270000.

Richardson, L. et al., (2023). Bumble Bees of North America. https://www.leifrichardson.org/bbna.html.SCAG (Southern California Association of Governments). 2020. *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. Adopted September 2020. https://scag.ca.gov/connect-socal

SCAQMD (South Coast Air Quality Management District). 2003. Final 2003 Air Quality Management Plan, Appendix V Modeling and Attainment Demonstrations. August 2003. Accessed November 17, 2021. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf?sfvrsn=2.

SWRCB (State Water Resources Control Board). 2023. GeoTracker. Accessed November 22, 2023. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=8331+caliente+rd.

Urban Crossroads. 2023. Hesperia Commerce Center I Lot 5 Trip Generation Assessment. October 2023.

Urban Crossroads. 2025. Focused Traffic Assessment. April 2025.

URS. 2013. Hesperia Commerce Center Final EIR. November.

USGS (U.S. Geological Survey). 2023. "U.S. Quaternary Faults. Accessed November 17, 2023. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf

4.2 List of Preparers

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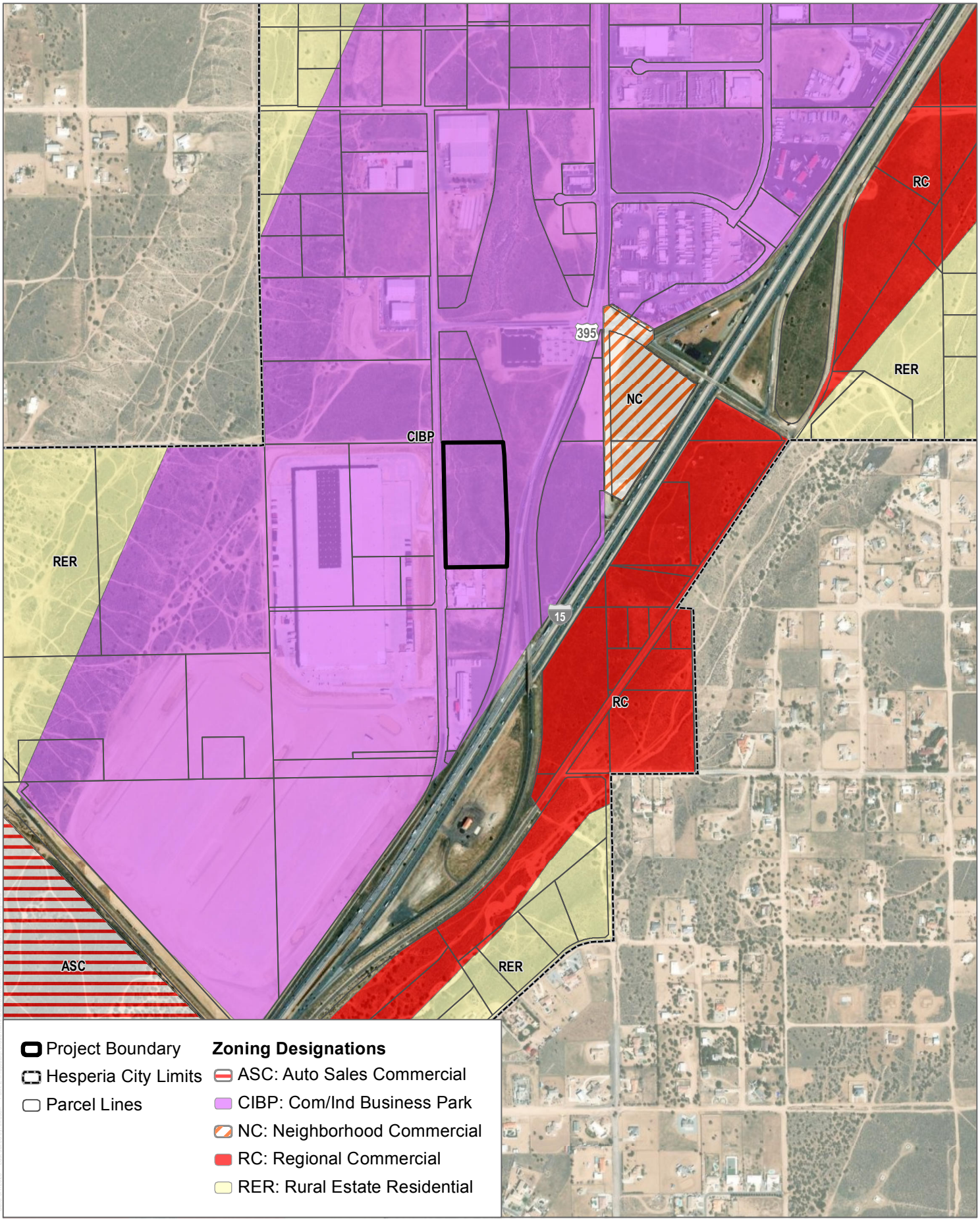

SOURCE: ESRI Imagery 2023; City of Hesperia 2022; Open Street Map 2019

DUDEK

0 500 1,000 Feet

FIGURE 4

Zoning

HCC 1 Lot 5 Project

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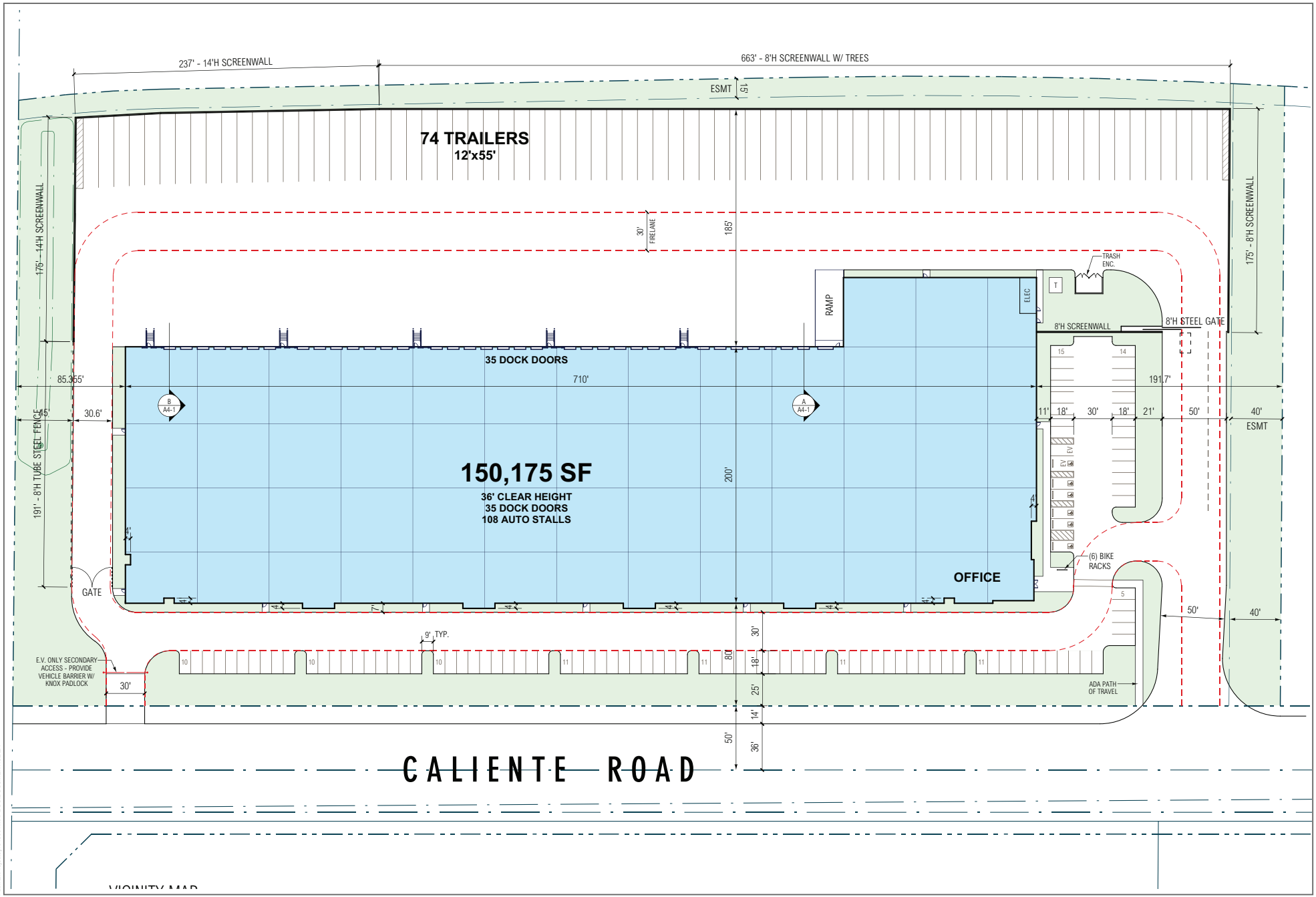

Source: RGA 2023

FIGURE 5

Proposed Site Plan

HCC 1 Lot 5 Project

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SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 250 500 Feet

FIGURE 6

Noise Measurement and Modeling Locations

HCC 1 Lot 5 Project

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Appendix A

Air Quality, Greenhouse Gas Emissions, and Energy Technical Memorandum

DUDEK
621 CHAPALA STREET
SANTA BARBARA, CALIFORNIA 93101
T 805.963.0651 F 805.963.2074

MEMORANDUM

To:	Covington Development Partners
From:	Adam Poll
Subject:	Air Quality, Greenhouse Gas Emissions, and Energy Technical Memorandum for the HCC I Lot 5 Project
Date:	May 9, 2025
cc:	Hayley Ward, Dudek
Attachment:	Attachment A – CalEEMod Emissions Outputs

1 Introduction and Purpose

The purpose of this memorandum is to estimate criteria air pollutants, greenhouse gas (GHG) emissions, and energy use from construction and operation of the HCC I Lot 5 Project (Project), in Hesperia (City), and evaluate potential air quality impacts, GHG emissions, and energy resulting from project implementation under the California Environmental Quality Act (CEQA). This analysis also compares the Project to that which was evaluated in a previously certified Environmental Impact Report (EIR) (State Clearinghouse No. 2012081016). The contents and organization of this memorandum are as follows: (1) introduction and purpose; (2) project description; (3) air quality assessment; (4) GHG emissions assessment; (5) energy assessment; (6) Conclusions; and (7) references cited.

2 Project Description

The proposed Project would include the construction of a 150,000 square feet of industrial warehouse building, inclusive of office space, situated on approximately 12 acres of land. The approximate 12-acre Project site is located in the southwestern portion of the City of Hesperia, which is situated in the Victor Valley/High Desert region in western San Bernardino County. Specifically, the Project site falls on public land survey system Section 28 of Township 4 North, Range 5 West on the *Baldy Mesa*, CA 7.5-minute United States Geological Survey (USGS) Quadrangle. The Project site is located north of existing development, south of vacant land, east of Caliente Road and Building 1 of the Hesperia Commerce Center and existing development, and west of vacant land, U.S. Route 395 (US 395) and Interstate 15 (I-15). The roughly rectangular-shaped Project site is located on one parcel consisting of Assessor's Parcel Number (APN) 3039-351-08.

3 Air Quality Assessment

3.1 Background

The Project site is located within the Mojave Desert Air Basin (MDAB) The MDAB includes the desert portions of Los Angeles, Kern, San Bernardino, and Riverside Counties. The Project is also located within the Mojave Desert Air Quality Management District (MDAQMD) portion of the Western Mojave Desert ozone (O_3) nonattainment area (MDAQMD 2008), which includes the following San Bernardino County communities: Phelan, Hesperia, Adelanto, Victorville, Apple Valley, Barstow, Joshua Tree, Yucca Valley, and Twentynine Palms (the southwestern portion of the MDAQMD).

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases [ROGs]), oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (coarse particulate matter, or PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (fine particulate matter, or $PM_{2.5}$). VOCs and NO_x are important because they are precursors to ozone (O_3).

Regarding National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) attainment status,[1] the MDAB as a nonattainment area for federal and state O_3 standards and federal and state PM_{10} standards, and unclassifiable/attainment for all other criteria air pollutants (EPA 2021; CARB 2021) standard.

3.2 Thresholds of Significance

The significance criteria used to evaluate project impacts to air quality are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), as follows:

A. Conflict with or obstruct implementation of the applicable air quality plan

B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard

C. Expose sensitive receptors to substantial pollutant concentrations

[1] An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the Environmental Protection Agency (EPA) and California Air Resources Board (CARB), respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards.

D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

CEQA Guidelines Appendix G indicates that, where available, significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the Project would have a significant impact on air quality. As outlined in the MDAQMD's *CEQA and Federal Conformity Guidelines* (MDAQMD 2020), a project would result in a significant environmental impact if it:

1. Would generate total emissions (direct and indirect) in excess of the established significance thresholds (presented as Table 1)
2. Would generate a violation of any ambient air quality standard when added to the local background
3. Does not conform with the applicable attainment or maintenance plan
4. Would expose sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million (10×10^{-6}) and/or a hazard index (noncarcinogenic) greater than or equal to 1

Residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned sensitive receptor land use must be evaluated using Threshold 4:

- any industrial project within 1,000 feet
- a distribution center (40 or more trucks per day) within 1,000 feet
- a major transportation project (50,000 or more vehicles per day) within 1,000 feet
- a dry cleaner using perchloroethylene within 500 feet
- a gasoline dispensing facility within 300 feet

The MDAQMD *CEQA Air and Federal Conformity Guidelines* (MDAQMD 2020) sets forth quantitative emission significance thresholds for criteria air pollutants below which a project would not have a significant impact on ambient air quality. Project-related air quality emissions estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 1 are exceeded. The emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly. MDAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions.

Table 1. Mojave Desert Air Quality Management District Daily Air Quality Significance Thresholds

Pollutant	Daily Threshold (pounds per day)
VOC	137
NO_x	137
CO	548
SO_x	137

Table 1. Mojave Desert Air Quality Management District Daily Air Quality Significance Thresholds

Pollutant	Daily Threshold (pounds per day)
PM_{10}	82
$PM_{2.5}$	65
Hydrogen sulfide[a]	54
Lead[a]	3

Source: MDAQMD 2020.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

[a] The Project includes typical equipment and on-road vehicles, which result in negligible (if any) emissions of hydrogen sulfide and lead. Therefore, these pollutants are not discussed in this analysis.

Regarding localized CO, although the MDAQMD does not have screening levels for intersection traffic that could result in potential CO hotspots, several other air districts have established these levels, which are described below to provide context of the magnitude of hourly volumes that could result in significant localized CO:

- The SCAQMD conducted CO modeling for its 2003 Air Quality Management Plan (SCAQMD 2003a) for the four worst-case intersections in the South Coast Air Basin. At the time the 2003 Air Quality Management Plan was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of approximately 100,000 vehicles per day. Using CO emission factors for 2002, the peak modeled CO 1-hour concentration was estimated to be 4.6 ppm at the intersection of Wilshire Boulevard and Veteran Avenue. Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least more than 100,000 vehicles per day.
- The Bay Area Air Quality Management District (BAAQMD) determined that projects would result in a less-than-significant impact to localized CO concentrations if (1) project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour, or (2) project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (BAAQMD 2017).

Based on the Project's proximity to the South Coast Air Basin, the SCAQMD screening criterion of 100,000 vehicles per day has been applied to this Project as a metric to evaluate CO hotspots.

3.3 Approach and Methodology

3.3.1 Construction

The California Emissions Estimator Model (CalEEMod) Version 2022 was used to estimate emissions from construction of the Project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with construction activities and operation of a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input

parameters, including the land use type used to represent the Project and its size, construction schedule, and anticipated use of construction equipment, were based on information provided by the applicant or default model assumptions if Project specifics were unavailable. Construction was assumed to commence in January 2025 and last approximately 13 months[2]. The first year of operation was assumed to be 2026, following completion of construction. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for up to 8 hours per day (depending on phase), 5 days per week (22 days per month), during Project construction. In addition to construction equipment operation, emissions from worker trips, vendor trucks (i.e., delivery trucks), and haul trucks were estimated based on information provided by the applicant or default model assumptions if Project specifics were unavailable. The Project is assumed to have a balanced cut and fill.

The construction equipment mix and estimated hours of equipment operation per day used for the air emissions modeling of the Project are shown in Table 2. Additional details regarding construction assumptions are provided in the modeling output, Attachment A.

Table 2. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Demolition	16	4	0	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	4	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	20	4	0	Graders	1	8
				Rubber Tired Dozers	1	8
				Excavators	2	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Building Construction	62	24	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Paving	16	4	0	Pavers	2	8
				Paving Equipment	2	8

[2] The analysis assumes a construction start date of January 2025, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 2. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Truck Trips	Equipment Type	Quantity	Daily Usage Hours
				Rollers	2	8
Architectural Coating	12	4	0	Air Compressors	1	6

Notes: See Attachment A for details.

3.3.2 Operations

Area Sources

CalEEMod was used to estimate operational emissions for the Project from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2021). Consumer product VOC emissions were estimated in CalEEMod based on the floor area of buildings and default factor of pounds of VOC per building square foot per day. The CalEEMod default values for consumer products were assumed.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of surface coatings based on the VOC emission factor, building square footage, assumed fraction of surface area, and reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and MDAQMD Rule 1113 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The CalEEMod default of 50 VOC grams per liter VOC will be used for the interiors and exteriors of the buildings. The CalEEMod default of 100 grams per liter was assumed for parking area coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults for non-residential uses, it is assumed that the surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2021).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gas emissions in CalEEMod, since criteria pollutant emissions would occur at the site of power plants, which are not on the Project site. However, natural gas combustion would occur at the Project site itself, in association with equipment that uses natural gas. The emissions associated with natural gas use were calculated using CalEEMod default parameters, which are reflective of the 2019 Title 24 standards to the extent CEC accounted for them in the underlying Commercial Forecast assumed in CalEEMod. Using CalEEMod default values are conservative as the Project would be required to comply with the more stringent 2022 Title 24 standards, which became effective January 1, 2023.

Offroad Sources

The SCAQMD published a high cube warehouse truck trip study white paper summary of business survey results (SCAQMD Survey), which summarizes various operational results from 34 operating high cube warehouses (SCAQMD 2014). The SCAQMD Survey reported an average of 0.12 forklifts/pallet jacks per 1,000 square feet of building area, which was applied to the Project. Note that this estimate is for total forklifts and pallet jacks while pallet jacks are small as they are primarily used to lift small loads in tight quarters (and are electric or manual); therefore, assuming all pieces of equipment are forklifts is conservative. The high cube warehouse factor of 0.12 forklifts/pallet jacks per 1,000 square feet of building area was applied for the Project, resulting in a total of 17 forklifts. The forklifts were modeled in CalEEMod as 82-horsepower diesel that would operate at 8 hours per day, 365 days per year. Similarly, the SCAQMD Survey estimated that warehouses use 3.6 yard trucks (or yard goats, hostlers, tractors, etc.) per 1 million square feet of building area. Using this rate, the project would use 1 yard truck (200 horsepower diesel) and was assumed to operate up to 8 hours per day, 365 days per year.

Mobile Sources

Following the completion of construction activities, the Project would generate criteria air pollutant emissions from mobile sources (vehicular traffic) as a result of employees and visitors of the Project. There would be 257 total vehicle trips per day. The truck breakdown by axle were based on similar projects Dudek has worked on. CalEEMod was used to estimate emissions from proposed vehicular sources (refer to Attachment A). CalEEMod default data, including, trip characteristics, and emissions factors, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use (as discussed below), as modeled within CalEEMod, which is based on the California Air Resources Board (CARB) EMFAC2021 model. Emission factors representing the vehicle mix and emissions for year 2026 (for the Project) was used to estimate emissions associated with vehicular sources. Two land uses in CalEEMod were used to model emissions from mobile sources. The “unrefrigerated warehouse-rail” land use was used to model trucks and the “unrefrigerated warehouse-no rail” was used to model passenger cars. The fleet mix for trucks was determined included the following vehicle categories: 2-axle trucks (50% LHD1 and 50% LHD2), 3-axle trucks (MHD), and 4-axle trucks (HHD). The fleet mix for passenger vehicles was assumed consistent with the EMFAC fleet mix for the air basin for the following vehicle categories: LDA, LDT1, and LDT2. Vehicle trip lengths were

assumed to be 40 miles for truck trips (in accordance with SCAQMD guidance) and 27 miles for employee passenger car trips, which is the CalEEMod default for the local metropolitan planning organization.

Stationary Sources

The Project would include a diesel-powered emergency generator rated at 150 horsepower and a diesel fire pump rated at 150 horsepower. Each engine was estimated to run up to 30 minutes per day and 50 hours per year in accordance with the CARB ATCM 17 CCR § 93115.

3.4 Impact Analysis

3.4.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Zoning changes, specific plans, general plan amendments and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle-miles traveled (VMT) are also deemed to comply with the applicable air quality plan (MDAQMD 2020).

Certified EIR

The General Plan land use designation for the Project site is Specific Plan; the site is within the Main Street and Freeway Corridor Specific Plan and more precisely within the Commercial/Industrial Business Park (CIBP) District. The warehousing and office uses that would be developed under the Certified EIR are consistent with the land use designation specified under the General Plan and zoning specified in the Specific Plan. As such, development of the project would be consistent with the growth forecasts included within the General Plan. In addition, the project would comply with all the applicable MDAQMD rules and regulations that relate to the construction and operation of the project. Consequently, the project is considered to not result in a significant impact in terms of conforming to MDAQMDs Rate of Progress Plan.

Project

The Project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited to Rules 401 (Visibile Emissions), 402 (Nuisance), and 403 (Fugitive Dust Control for the Mojave Desert Planning Area). According to the City's Main Street Freeway Corridor Specific Plan, the land use designation and zoning for the Project

site is Commercial/Industrial Business Park (CIBP). This zone is intended to provide for service commercial, light industrial, light manufacturing, and industrial support uses, mainly conducted in enclosed buildings, which will produce only a small environmental impact, such as noise, vibration, air pollution, glare or waste disposal. Permitted uses in this designation include commercial storage facilities, manufacturing, outdoor storage, and warehousing and wholesale distribution centers (200,000 square feet or less) (Hesperia 2021). Since the Project site is under this designation and zoning, the proposed warehouse facility less than 200,000 square feet would be consistent with the City's Main Street Freeway Corridor Specific Plan and General Plan. Therefore, the Project would not conflict with the underlying land use assumptions assumed in the particulate matter and Ozone Attainment plans and impacts would be less than significant.

As discussed below, Project construction-source emissions would not exceed applicable MDAQMD regional threshold during construction or operation. As such, the Project would not have the potential to increase the frequency or severity of a violation in the federal or state ambient air quality for on-going Project operations.

Based on the preceding considerations, the Project would conform to local land use plans and the Project's operational-source emissions do not have the potential to increase the frequency or severity of a violation in the federal or state ambient air quality standards. On this basis, the Project would not conflict with the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the MDAB. Therefore, impacts from conflicting with appliable air quality plans would be less than significant and consistent with the previously certified EIR.

3.4.2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and MDAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a Project's individual emissions would have a cumulatively significant impact on air quality.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road vendor trucks, haul trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

Certified EIR

The maximum daily construction emissions with mitigation are shown in Table 3 below for the Certified EIR.

Table 3. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Certified EIR

Year	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	pounds per day					
2013	47.80	259.34	487.60	0.77	73.58	24.37
2014	462.72	644.56	737.36	1.43	1,558.24	38.79
2015	457.78	606.09	695.13	1.43	1,556.71	37.26
Maximum	***462.72***	***644.56***	***737.36***	***1.43***	***1,558.24***	***38.79***
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	Yes	Yes	Yes	No	Yes	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
Emissions include compliance with MDAQMD Rules 403.
Source: URS 2013.

As shown in Table 3, maximum daily emissions during construction from the Certified EIR exceeded the MDAQMD thresholds for VOC, NOx, CO, and PM_{10}. Emissions during construction are significant and unavoidable.

Project

The CalEEMod Version 2022 was used to estimate emissions from construction of the Project. Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The Project would be required to comply with MDAQMD Rule 403 to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day, with additional watering depending on weather conditions. The CalEEMod default assumptions were used for estimating fugitive dust emissions from grading on site. The Project would involve application of architectural coating (e.g., paint and other finishes) for painting the interior and exterior of the building as well as parking lot striping. Table 4 presents the estimated maximum daily construction emissions generated during construction of the Project. Details of the emission calculations are provided in Attachment A.

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Project

Year	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	pounds per day					
Summer						
2025	3.31	29.91	30.02	0.06	10.74	4.86
2026	-	-	-	-	-	-
Winter						

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Project

2025	35.45	54.29	52.11	0.08	22.46	12.33
2026	35.32	19.32	29.10	0.05	2.19	1.03
Maximum	***35.45***	***54.29***	***52.11***	***0.08***	***22.46***	***12.33***
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
Emissions include compliance with MDAQMD Rules 403.
See Attachment A for complete results.

As shown in Table 4, Project construction would not exceed MDAQMD's daily thresholds for. Therefore, construction impacts associated with criteria air pollutant emissions would be less than significant and less than that evaluated in the Certified EIR.

Operational Emissions

Certified EIR

Operational emissions from the Certified EIR are shown in Table 5.

Table 5. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions – Certified EIR

Emissions Source	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	126.30	0.00	0.00	0.00	0.00	0.00
Energy	0.24	2.15	1.81	0.01	0.16	0.16
Mobile	94.43	519.84	938.98	1.36	141.72	24.25
Total	**220.97**	**521.99**	**940.79**	**1.37**	**141.88**	**24.41**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	**Yes**	**Yes**	**Yes**	No	**Yes**	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
Columns may not add due to rounding.
Source: URS 2013.

Emissions during operation of the Certified EIR would exceed the MDAQMD significance thresholds for VOC, NOx, CO, and PM_{10}. No feasible mitigation was identified and therefore impacts were considered significant and unavoidable.

Project

Emissions from the operational phase of the Project's land uses were estimated using CalEEMod. Table 6 presents the maximum daily area, energy, mobile, offroad, and stationary source emissions associated with operation of the Project in year 2026. The values shown are the maximum summer or winter daily emissions (i.e., worst-case) results from CalEEMod. Details of the emission calculations are provided in Attachment A.

Table 6. Estimated Maximum Daily Operation Criteria Air Pollutant Emissions – Project

Emissions Source	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
Area	4.52	0.05	6.52	0.00	0.01	0.01
Energy	0.04	0.77	0.64	0.00	0.06	0.06
Mobile	0.87	8.31	14.34	0.10	5.31	1.49
Offroad	0.28	16.66	151.61	0.01	0.06	0.06
Stationary	0.25	0.69	0.89	0.00	0.04	0.04
Total	**5.97**	**26.48**	**174.02**	**0.12**	**5.48**	**1.66**
Winter						
Area	3.45	-	-	-	-	-
Energy	0.04	0.77	0.64	0.00	0.06	0.06
Mobile	0.78	8.78	10.18	0.10	5.31	1.49
Offroad	0.28	16.66	151.61	0.01	0.06	0.06
Stationary	0.25	0.69	0.89	0.00	0.04	0.04
Total	**4.81**	**26.90**	**163.33**	**0.11**	**5.46**	**1.65**
MDAQMD Threshold	*137*	*137*	*548*	*137*	*82*	*65*
Threshold Exceeded?	No	No	No	No	No	No

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; MDAQMD = Mojave Desert Air Quality Management District.
See Attachment A for complete results. Columns may not add due to rounding.

As shown in Table 6, the increase in criteria air pollutant emissions associated with Project operations would not exceed MDAQMD's significance thresholds and, therefore, operational impacts associated with criteria air pollutant emissions would be less than significant. Emissions during operation of the Project would also be less than that in the Certified EIR.

3.2.3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Local Carbon Monoxide Concentrations

Mobile source impacts occur on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase VMT within the local airshed and the MDAB. Locally, Project-generated traffic would be

added to the roadway system near the Project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds and operates on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. However, because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the MDAB is steadily decreasing.

The MDAQMD thresholds of significance for local CO emissions is the 1-hour and 8-hour CAAQS of 20 ppm and 9 ppm, respectively. By definition, these represent levels that are protective of public health. As noted previously, the MDAB is currently designated attainment for both state and national CO ambient air quality standards, and the Town of Apple Valley typically experiences low background CO concentrations.

Certified EIR

The proposed Project would involve the generation of truck trips from the proposed warehouse component of the Project. Based on the Project's traffic study, it is estimated that there would be 10,964 daily vehicle trips, 958 AM peak hour trips, and 927 PM peak hour trips be generated by the proposed Project (URS 2013). A CO hotspots modeling analysis was performed using the CALINE4 and showed that the studies intersections would not exceed the one-hour or 8-hour CO ambient air quality standard and therefore would not create a CO hotspot. Impacts would be considered less than significant.

Project

As described in Section 3.2, to verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation was conducted comparing the highest hourly traffic volumes at any studied intersection in proximity to the Project site to the 100,000 vehicles per day criterion from the SCAQMD Air Quality Management Plan (SCAQMD 2003a). The project would generate 257 daily vehicle trips, 37 AM peak hour passenger car equivalent (PCE) trips, and 38 PM peak hour PCE trips, and therefore falls below the City's LOS traffic study thresholds. As the Project's daily and peak traffic is substantially less than that studied in the Certified EIR and the Certified EIR traffic did not generate a CO hotspot, it is anticipated the Project would therefore not generate a CO hotspot. Therefore, impacts associated with CO hotspots would be less than significant.

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (immediate) and/or chronic (cumulative) non-cancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and

reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

The MDAQMD has established a procedure for evaluating localized impacts from development Projects. Localized impacts are addressed through significance thresholds which states "Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in cancer risk greater than or equal to 10 parts per million and/or a Hazard Index (HI) (noncancerous) greater than or equal to 1." The MDAQMD has provided screening distances for which localized impacts are not expected to cause a significant negative impact upon sensitive receptors.

Certified EIR

Sensitive receptors include residences, schools, day care centers, playgrounds and medical facilities. The applicable screening distance for the proposed Project is whether a distribution center with 40 or more trucks per day would be operational within 1,000 feet of a sensitive receptor.

The proposed Project would involve the generation of truck trips from the proposed warehouse component of the Project. Based on the Project's traffic study, it is estimated that 246 AM peak hour truck trips and 234 PM peak hour truck trips would be generated by the proposed Project. The nearest sensitive receptor (residences) to the Project site's truck parking lot is approximately 1,800 feet to the southeast. The nearest residence to the east of the Project site is located approximately 1,500 feet and is further separated by the I-15 freeway. This distance between sensitive receptors and the proposed Project exceeds the screening distance of 1,000 feet used by the MDAQMD for distribution centers. This distance allows the dispersion of air pollutants such that it will not result in a significant air quality impact to local sensitive receptors. Rural estate residential uses are allowed on vacant parcels adjacent to the Project site, along the western boundary where an 'open space' remainder parcel is identified for the Project that will be used for storm water detention and shall also include a drainage easement. A conservation easement will also be recorded, to allow for future recreational trail purposes. As such, the proposed Project would not expose existing or future sensitive receptors to substantial pollutant concentrations.

Project

Project construction would result in emissions of diesel particulate from heavy construction equipment and trucks accessing the site. Diesel particulate is characterized as a TAC by the State of California. The Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure, but has not identified health effects due to short-term exposure to diesel exhaust. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be

limited to the period/duration of activities associated with the Project. Thus, the duration of the proposed construction activities would only constitute a small percentage of the total 30-year exposure period. Due to this relatively short period of exposure (13 months) and minimal particulate emissions on-site, TACs generated by the Project would not result in concentrations causing significant health risks. Overall, the Project would not result in substantial TAC exposure to sensitive receptors in the vicinity of the Project, and impacts would be less than significant.

While the Project would result in more than 40 trucks per day during operation, it would be located further than 1,000 feet from the closest sensitive receptor. As such, no formal health risk assessment is required in accordance with MDAQMD guidance and impacts would be less than significant during operation.

Health Effects of Criteria Air Pollutants

Certified EIR

No analysis was provided in the 2013 EIR regarding the project's health effects of criteria air pollutants.

Project

Construction and operation of the Project would result in emissions that would not exceed the MDAQMD thresholds for criteria air pollutants.

Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue. VOCs and NO_x are precursors to O_3, for which the MDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the MDAB due to O_3 precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative. That being said, because the Project would not exceed the MDAQMD VOCs and NO_x thresholds during Project operations, the Project would not contribute to health effects associated with O_3.

Health effects associated with NO_x and NO_2 (which is a constituent of NO_x) include lung irritation and enhanced allergic responses. Because the MDAB is a designated attainment area for NO_2 (and NO_2 is a constituent of NO_x) and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards, it is not anticipated that the Project would cause an exceedance of the NAAQS and CAAQS for NO_2 or result in potential health effects associated with NO_2 and NO_x. Therefore, because the Project would not exceed the MDAQMD NO_x threshold during Project operations, the Project would not contribute to health effects associated with NO_x and NO_2.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness. CO tends to be a localized impact associated with congested intersections. The potential for CO hotspots is discussed under the subsequent impact criterion below and determined to be less than significant. Furthermore, the Project will not exceed CO emissions thresholds during operation. Thus, the Project's CO emissions would not contribute to significant health effects associated with CO.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease. Operation of the Project would not exceed the MDAQMD threshold for PM_{10}. Because the Project does not emit substantial particulate matter during operation, the Project would not result in associated health effects.

In summary, operation of the Project would not result in exceedances of the MDAQMD significance thresholds, and the Project would not potentially result in health effects associated with these pollutants. Because operation of the Project would not exceed the MDAQMD thresholds, and because the MDAQMD thresholds are based on levels that the MDAB can accommodate without affecting the attainment date for the AAQS and the AAQS are established to protect public health and welfare, the Project is not anticipated to result in health effects associated with criteria air pollutants.

3.4.4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Certified EIR

The previously certified EIR did not evaluate whether the project would result in other emissions adversely affecting a substantial number of people.

Project

Land uses most commonly associated with odor complaints generally include agricultural uses (livestock and farming), wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The Project does not include uses that would be substantive sources of objectionable odors. Potential temporary and intermittent odors may result from construction equipment exhaust, the application of asphalt, and architectural coatings. Temporary and intermittent construction-source emissions are controlled through existing requirements and industry Best Management Practices addressing proper storage of and application of construction materials.

The Project would also be required to comply with MDAQMD Rule 402 (Nuisance). Rule 402 provides that "[a] person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property" (MDAQMD 1976). Based on the preceding, the potential for the Project to create objectionable odors affecting a substantial number of people would be less than significant.

4 Greenhouse Gas Emissions Assessment

4.1 Background

GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human

activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, and water vapor. If the atmospheric concentrations of GHGs rise, the average temperature of the lower atmosphere will gradually increase. Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: average temperatures have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), which varies among GHGs. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2e). The CO_2e for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons (MT) of CO_2e = (MT of a GHG) × (GWP of the GHG). CalEEMod assumes that the GWP for CH_4 is 25, which means that emissions of one MT of CH_4 are equivalent to emissions of 25 MT of CO_2, and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's (IPCC's) Fourth Assessment Report (IPCC 2007).

4.2 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to GHGs are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to GHG emissions would occur if the project would:

A. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The Town has not adopted a numeric significance threshold for determining significant impacts associated with GHG emissions. Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008a). While the Project is located within the jurisdiction of the MDAQMD, both MDAQMD and the South Coast Air Quality Management District (SCAQMD) recommended thresholds are discussed below. Because SCAQMD's thresholds are more stringent and are backed by substantial evidence from an expert agency, the SCAQMD's recommended thresholds are utilized for determining the potential significance of impacts for the Project, as discussed below.

On May 13, 2010 EPA finalized the GHG Tailoring Rule (75 FR 31514, June 3, 2010). The Tailoring Rule sets major source emissions thresholds that define when federal operating permits under Prevention Significant Deterioration (PSD) or Title V are required. The Tailoring Rule establishes a threshold of 100,000 tons per year or 90,719 MT per year of

GHGs from new sources above which sources are considered major sources requiring a federal operating permit. As such, the MDAQMD has adopted a significance threshold for GHGs of 100,000 tons per year. More specifically, 100,000 tons per year of GHG emissions from a single facility constitutes major sources that require a federal operating permit. Similarly, the MDAQMDs NO_x significance threshold of 25 tons per year is equal to the major source threshold applicable to areas designated severe non-attainment for ozone. As such, use of the EPAs determination of whether a Project is a major source and consequently establishing a threshold based on that is supported by substantial evidence.

The SCAQMD, which oversees the adjacent South Coast Air Basin, has recommended more stringent numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects; however, these thresholds were not adopted. The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses and stationary projects would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Based on the supporting analysis outlined in SCAQMD's draft GHG guidance and meeting notes, this 3,000 MT CO_2e per year level would capture 90 percent of GHG emissions from new residential or commercial projects in the region (SCAQMD 2008b). This type of market capture analysis captures a substantial fraction of the GHG emissions from future development to accommodate for future population and job growth and excludes small development projects that would contibute a relatively small fraction of the cumulative statewide GHG emissions. The City understands that the 3,000 MT CO_2e/yr threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 MT CO_2e/yr threshold was developed and recommended by SCAQMD, an expert agency, based on substantial evidence as provided in the Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold (2008) document and subsequent Working Group meetings (latest of which occurred in 2010). SCAQMD has not withdrawn its support of the interim threshold and all documentation supporting the interim threshold remains on the SCAQMD website on a page that provides guidance to CEQA practitioners for air quality analysis (and where all SCAQMD significance thresholds for regional and local criteria pollutants and toxic air contaminants also are listed). Further, as stated by SCAQMD, this threshold "uses the Executive Order S-3-05 goal [80% below 1990 levels by 2050] as the basis for deriving the screening level" and, thus, remains valid for use in 2023. Lastly, this threshold has been used for hundreds, if not thousands of GHG analyses performed for projects located within the SCAQMD jurisdiction.

The City has determined that the SCAQMD's draft threshold of 3,000 MT CO_2e per year is conservative and appropriate for industrial and warehouse land use development projects. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008a). This impact analysis, therefore, adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year.

4.3 Approach and Methodology

Emissions from construction and operation of the Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022 (CAPCOA 2023).[3] CalEEMod input parameters, including the Project land use type and size and construction schedule, were based on information provided by the Project Applicant, or default model assumptions if Project specifics were unavailable.

4.3.1 Construction

Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling, and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 3.3.1 (Methodology, Construction subsection), are also applicable for the estimation of construction-related GHG emissions.

[3] CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with the construction and operational activities from a variety of land use projects, such as residential, commercial, and industrial facilities.

4.3.2 Operation

Project operations would generate CO_2, CH_4, and N_2O emissions. Primary emissions sources would include:

- Area Sources (landscape and site maintenance activities)
  - Energy Sources (combustion emissions associated with natural gas and electricity)
- Mobile Sources (on-road vehicles)
  - Off-road Equipment
  - Stationary Sources
- Solid Waste
  - Water Supply, Treatment, and Distribution

Area Sources

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on default assumptions provided in CalEEMod.

Energy Sources

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. GHG emissions associated with the natural gas and electricity usage associated with the Project were calculated by CalEEMod using default parameters. The project would include solar onsite to cover at least 75% of the electricity needs of the Project.

Mobile Sources

All details for criteria air pollutants discussed in Section 3.3.2, are also applicable for the estimation of operational mobile source GHG emissions. It was assumed that the warehouse would operate 7 days per week; therefore, 365 days of vehicle emissions were assumed. Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the National Highway Traffic Safety Administration and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the Project's motor vehicles. The effectiveness of fuel economy improvements was evaluated to the extent it was captured in CalEEMod for motor vehicles in 2026.

Off-Road Equipment

The SCAQMD published a high cube warehouse truck trip study white paper summary of business survey results (SCAQMD Survey), which summarizes various operational results from 34 operating high cube warehouses (SCAQMD 2014). The SCAQMD Survey reported an average of 0.12 forklifts/pallet jacks per 1,000 square feet of building area, which was applied to the Project. Note that this estimate is for total forklifts and pallet jacks while pallet jacks are small as they are primarily used to lift small loads in tight quarters (and are electric or manual); therefore, assuming all pieces of equipment are forklifts is conservative. The high cube warehouse factor of 0.12 forklifts/pallet jacks per 1,000 square feet of building area was applied for the Project, resulting in a total of 17 forklifts. The forklifts were modeled in CalEEMod as 82-horsepower diesel that would operate at 8 hours per day, 365 days per year. Similarly, the SCAQMD Survey estimated that warehouses use 3.6 yard trucks (or yard goats, hostlers, tractors, etc.) per 1 million square feet of building area. Using this rate, the project would use 1 yard truck (200 horsepower diesel) and was assumed to operate up to 8 hours per day, 365 days per year.

Stationary Sources

The Project would include a diesel-powered emergency generator rated at 150 horsepower and a diesel fire pump rated at 150 horsepower. Each engine was estimated to run up to 30 minutes per day and 50 hours per year in accordance with the CARB ATCM 17 CCR § 93115.

Solid Waste

The Project would generate solid waste, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste for the Project uses.

Water

Supply, conveyance, treatment, and distribution of water for the Project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the Project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. The indoor and outdoor water use and electricity consumption from water use and wastewater generation were estimated using CalEEMod default values for the Project.

4.4 Impact Analysis

4.4.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Certified EIR

The construction GHG emissions from the Certified EIR are shown in Table 7. The EIR only showed me

Table 7. Estimated Annual Construction GHG Emissions – Certified EIR

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2013	857.49	0.09	0.00	859.28
2014	11,147.50	0.76	0.00	11,163.55
2015	8,595.32	0.55	0.00	8,606.95
			Total	20,629.78
			Annualized emissions over 30 years (metric tons per year)	*687.66*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas. Values of "<0.01" indicate that the estimated emissions are less than two decimals.
Source: URS 2013.

As shown in Table 7, the estimated total GHG emissions during construction would be approximately 20,630 MT CO_2e. Estimated Project -generated construction emissions amortized over 30 years would be approximately 688 MT CO_2e per year.

Project

Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. CalEEMod was used to estimate GHG emissions during construction. Construction of the Project is anticipated to last up to 13 months. Table 8 presents construction GHG emissions for the Project.

Table 8. Estimated Annual Construction GHG Emissions – Project

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2025	644.60	0.02	0.01	650.30
2026	20.37	0.00	0.00	20.53
			Total	670.83
			Annualized emissions over 30 years (metric tons per year)	*22.36*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas. See Attachment A for complete results. Values of "<0.01" indicate that the estimated emissions are less than two decimals.

As shown in Table 8, the estimated total GHG emissions during construction would be approximately 665 MT CO_2e. Estimated Project -generated construction emissions amortized over 30 years would be approximately 22 MT CO_2e per year.

Operational Emissions

Certified EIR

CalEEMod was used to estimate potential operational GHG emissions from energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment for the Project. Table 9 presents the increase in GHG emissions from the Certified EIR.

Table 9. Estimated Annual Operation GHG Emissions – Certified EIR

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	0.00	0.00	0.00	0.00
Energy	6,728.26	0.20	0.08	6,757.29
Mobile	21,255.15	0.78	0.00	21,271.77
Waste	6,841.21	404.30	0.00	15,331.58
Water	86,629.50	467.48	12.52	100,328.07
			Total	**143,688.71**
			Amortized Construction Emissions	*687.66*
			Total with Amortized Construction Emissions	**144,376.37**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Values of "<0.01" indicate that the estimated emissions are less than two decimals.
Source: URS 2013.

As shown in Table 9, the estimated increase in GHG emissions from operation of the Project would be approximately 144,376 MT CO_2e per year, including amortized construction emissions. Annual operational GHG emissions with amortized construction emissions would exceed the SCAQMD recommended threshold of 3,000 MT CO_2e per year. This impact would be potentially significant before mitigation. As no mitigation was identified in the EIR to reduce emissions of GHGs, the impact would be considered significant and unavoidable.

Project

CalEEMod was used to estimate potential operational GHG emissions from energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment for the Project. In addition, GHGs generated by forklifts were estimated for the Project. For additional details, see Section 4.3.2 for a discussion of operational emission calculation methodology and assumptions. Operational year 2026 was assumed as the first full year of operation for the Project and year 2026. Table 10 presents the increase in GHG emissions from the Project.

Table 10. Estimated Annual Operation GHG Emissions – Project

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	2.19	0.00	0.00	2.20
Energy	191.44	0.02	0.00	192.10
Mobile	1,751.30	0.01	0.20	1,813.80
Offroad	684.44	0.02	0.00	685.47
Stationary	5.71	0.00	0.00	5.73

Table 10. Estimated Annual Operation GHG Emissions – Project

Emissions Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Waste	12.58	1.26	0.00	44.02
Water	104.07	2.78	0.07	193.44
Total				**2,936.70**
Amortized Construction Emissions				*22.36*
Total with Amortized Construction Emissions				**2,959.06**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Values of "<0.01" indicate that the estimated emissions are less than two decimals. See Attachment A for details.

As shown in Table 10, the estimated increase in GHG emissions from operation of the Project would be approximately 2,959 MT CO_2e per year, including amortized construction emissions. Annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD recommended threshold of 3,000 MT CO_2e per year. This impact would be less than significant. The Project would also emit fewer GHGs than the Certified EIR.

4.4.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Certified EIR

The 2013 Certified EIR discussed several climate change plans including CARB's 2008 Scoping Plan, the City of Hesperia General Plan, and City of Hesperia Climate Action Plan. However, no consistency analysis or impact evaluation was made with respect to whether the Project would conflict with an applicable GHG reduction plan. The Certified EIR did include mitigation measure GHG-1 to implement General Plan Policies CN-7.4, CN-7.7, VN-7.8 and VN-7.9 during construction and operations. Impacts to GHG emissions were determined to be significant and unavoidable.

Project

Project Consistency with State Reduction Targets and CARB's Scoping Plan

The Scoping Plan, approved by CARB in 2008 and updated in 2014, 2017, and 2022, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs (CARB 2014a, CARB 2017b, CARB 2022a). As such, the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[4] Under the

[4] The Final Statement of Reasons for the amendments to the State CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low-Carbon Fuel Standard), among others. The project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 11 highlights measures that have been developed under the Scoping Plan and the project's consistency with those measures. Table 11 also includes measures recommended in the Scoping Plan. To the extent that these regulations are applicable to the project, its inhabitants, or uses, the project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	*Consistent.* The project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	T-2	*Consistent.* Motor vehicles driven by the project's employees would use compliant fuels.
Low Carbon Fuel Standard (18% reduction in carbon intensity by 2030)	Recommended	*Consistent.* Motor vehicles driven by the project's employees would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	*Not applicable.* The proposed project would not prevent CARB from implementing this measure.
Advanced Clean Transit	Recommended	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Last Mile Delivery	Recommended	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction in Vehicle Miles Traveled	Recommended	*Not applicable.* The project would not prevent CARB from implementing this measure.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	*Consistent.* These standards would be applicable to the light-duty vehicles that would access the project site. Motor vehicles driven by the project's employees would maintain proper tire pressure when their vehicles are serviced. The project's employees would replace tires in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. Motor vehicles driven by the project's employees would use low-friction oils when their vehicles are serviced. The project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. In addition, the project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	*Consistent.* The Proposed project would not include cold storage and therefore not accommodate trailers with transportation refrigeration units. The project would include natural gas forklifts and one diesel yard truck.
California Sustainable Freight Action Plan	Recommended	*Consistent.* Per mitigation measure GHG-1, the project will implement the EPA SmartWay Program for trucks.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	*Consistent.* Heavy-duty vehicles would be required to comply with CARB GHG reduction measures. In addition, the project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive project	T-8	*Consistent.* The project's medium- and heavy-duty vehicles (e.g., water delivery trucks) could take advantage of the vehicle hybridization action, which would reduce GHG emissions through increased fuel efficiency. In addition, the project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	Recommended	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
High-Speed Rail	T-9	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Transportation Electrification	2022 Appendix D	*Consistent.* The project would include EV charging infrastructure meets the voluntary standard in the CALGreen Code at time of project approval.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
VMT Reduction		
Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)	2022 Appendix D	*Consistent.* The project site is located on an undeveloped land that is close to existing development and served by existing utilities and essential public services.
Does not result in the loss or conversion of natural and working lands	2022 Appendix D	*Consistent.* The project site is currently undeveloped and not used as working lands.
Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or, Is in proximity to existing transit stops (within a half mile), or Satisfies more detailed and stringent criteria specified in the region's SCS.	2022 Appendix D	*Consistent.* The project is located less than 800 feet from an existing park and ride facility.
Reduces parking requirements by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	2022 Appendix D	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
At least 20 percent of units included are affordable to lower-income residents	2022 Appendix D	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Results in no net loss of existing affordable units	2022 Appendix D	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	2022 Appendix D	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	*Consistent.* The project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	*Consistent.* The project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	*Not applicable.* The project would not prevent CARB from implementing this measure.
Combined Heat and Power	E-2	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Renewable Portfolios Standard (33% by 2020)	E-3	*Consistent.* While the project would support this goal, the 2020 goal has passed and would no longer apply.
Renewable Portfolios Standard (50% by 2050)	Recommended	*Consistent.* The project would support the RPS goal by production of 75% of electricity needs through onsite solar.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	*Consistent.* The project would support the RPS goal by production of 75% of electricity needs through onsite solar.
Water Sector		
Water Use Efficiency	W-1	*Not applicable.* The proposed project would not prevent CARB from implementing this measure.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Water Recycling	W-2	*Not applicable.* Recycled water is not available to the project site. The project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	*Not applicable.* This is applicable for the transmission and treatment of water, but it is not applicable for the project.
Reuse Urban Runoff	W-4	*Not applicable.* The reuse of urban water on site was determined to not be feasible. The project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	*Not applicable.* Applicable for wastewater treatment systems. Not applicable for the project.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	*Not applicable.* The proposed project would not prevent CARB from implementing this measure.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	*Not applicable.* The proposed project would not prevent CARB from implementing this measure.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	*Consistent.* The project would be built in accordance with Title 11 CALGreen standards in place at the time building permits are obtained.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	*Not applicable.* The proposed project would not prevent CARB from implementing this measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	Recommended	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Refinery Flare Recovery Process Improvements	I-4	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Mandatory Commercial Recycling	RW-3	*Consistent.* During both construction and operation of the project, the project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.
Increase Production and Markets for Compost and Other Organics	RW-4	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Anaerobic/Aerobic Digestion	RW-5	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Extended Producer Responsibility	RW-6	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Environmentally Preferable Purchasing	RW-7	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Forests Sector		
Sustainable Forest Target	F-1	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 11. Project Consistency with Scoping Plan Greenhouse Gas Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Limit High Global Warming Potential Use in Consumer Products	H-4	*Consistent.* The project's employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	*Consistent.* Employees of the project would conduct air conditioning refrigerant leak tests during periodic vehicle smog checks.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
40% Reduction in Methane and Hydrofluorocarbon Emissions	Recommended	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
50% Reduction in Black carbon Emissions	Recommended	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	*Not applicable.* This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan Measure.

Source: CARB 2008, 2017b, CARB 2022a.
Notes: Scoping Plan = CARB Climate Change Scoping Plan: A Framework for Change Scoping Plan; CARB = California Air Resources Board; GHG = greenhouse gas; EV = electric vehicle; project = 14800 W. Schulte Road Logistics Center project; CALGreen = California Green Building Standards; SCS = Sustainable Communities Strategy; RPS = Renewables Portfolio Standard; SF_6 = sulfur hexafluoride.

Based on the analysis in Table 11, the project would be consistent with the applicable strategies and measures in the Scoping Plan.

Consistency with the City's Climate Action Plan

The City adopted a CAP in 2010 to reduce emissions of GHGs within the City. The CAP was developed to be consistent with AB32 with GHG reduction goals through 2020. The City's CAP has not been updated to reflect the states GHG emissions reduction goals beyond 2020 and thus is not applicable to projects that are operational after 2020, including this Project. However, for informational purposes only, the Project's consistency with the applicable City's CAP measures is provided in Table 12 below.

Table 12. Consistency with the City's CAP

CAP Policies	CAP Implementation Action	Project Consistency
CAP-1.1	Projects developed within a CAP compliant Development Plan or Specific Plan that meet all applicable design criteria and mitigation measures will be deemed consistent with the CAP.	*Consistent.* The project is consistent with the underlying zoning for the site and includes mitigation measure GHG-1 from the Certified EIR.
CAP-1.5	Projects that require a discretionary approval shall reduce operational greenhouse gas emissions by at least 12 percent, without accounting for regulations discussed in the CAP. The project inventory should include all potential sources, including but not limited to those identified in this CAP.	*Consistent.* As shown in Section 4.4.1, the Project would result in 98% fewer GHG emissions than that evaluated within the Certified EIR.
CAP-9.2	Track State initiatives regarding zero net energy consumption and encourage installation of solar or other yet-to-be determined technologies that prove to be cost-effective.	*Consistent.* The project would include solar photovoltaics onsite to offset at least 75% of the Project's electricity demand.
CAP-9.5	Promote and incentivize alternative energy such as wind and solar in new development and revitalization projects.	*Consistent.* The project would include solar photovoltaics onsite to offset at least 75% of the Project's electricity demand.
CAP-10.2	Achieve the state target of a 20-percent reduction in water consumption by 2020.	*Consistent*. The project would include xeriscaping and other water saving features onsite.

Table 12. Consistency with the City's CAP

CAP Policies	CAP Implementation Action	Project Consistency
CAP-11.2	Require new commercial, multi-family residential, and industrial development to incorporate storage of recyclables in site designs.	*Consistent*. The project would include recycling storage onsite.

Source: City of Hesperia 2010.

As shown in Table 12, the Project would be consistent with the applicable City CAP policies.

Potential to Conflict with SCAG's RTP/SCS

The SCAG 2020–2045 RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California Region pursuant to SB 375. In addition to demonstrating the Region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020-2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use.

The following strategies are intended to be supportive of implementing the 2020-2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region (SCAG 2020). The strategies that pertain to residential development and SCAG's support of local jurisdiction sustainability efforts would not apply to the Project. The Project's compliance with the remaining applicable strategies is presented below).

- **Focus Growth Near Destinations and Mobility Options**. The Project's compliance with this strategy of the 2020-2045 RTP/SCS is supported because the Project would introduce new jobs proximate to existing housing which would reducing vehicle miles traveled. The Project would be located in area with a low job to housing ratio. The Project's proximity to existing freeways also helps to reduce vehicle miles traveled and local truck traffic congestion.

- **Leverage Technology Innovations**. One of the technology innovations identified in the 2020-2045 RTP/SCS that would apply to the Project is the promotion and support of low emission technologies for transportation, such as alternative fueled vehicles to reduce per capita GHG emissions. The Project would participate in the EPA SmartWay program which reduces GHG emissions from trucks. The Project would also include onsite solar to offset at least 75% of the Project's electricity demand.

- **Promote a Green Region.** The third applicable strategy within the 2020-2045 RTP/SCS, for individual developments, such as the Project, involves promoting a green region through efforts such as supporting local policies for renewable energy production and promoting more resource efficient development (e.g.,

reducing energy consumption) to reduce GHG emissions. The Project would include onsite solar to offset at least 75% of the Project's electricity demand.

Based on the analysis above, the Project would be consistent with the SCAG 2020-2045 RTP/SCS.

5 Energy Assessment

5.1 Background

Electricity

According to the U.S. Energy Information Administration (EIA), California used approximately 250,379 gigawatt hours of electricity in 2019 (EIA 2021a). By sector in 2019, commercial uses utilized 46% of the state's electricity, followed by 35% for residential uses, and 19% for industrial uses (EIA 2021a). Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the commercial sector is lower than any other state except Hawaii (EIA 2021b).

Southern California Edison (SCE) provides electricity to the Project. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. According to the California Public Utilities Commission (CPUC), approximately 84 billion kilowatt-hours of electricity were used in SCE's service area in 2017. Demand forecasts anticipate that approximately 75 billion kilowatt-hours of electricity would be used in SCE's service area in 2020 (CPUC 2020).

SCE receives electric power from a variety of sources. According to the 2019 SCE Power Content Label, renewable energy accounts for 35% of the overall energy resources, with geothermal resources at 6%, wind power at 12%, large hydroelectric sources at 1% and solar energy is at 16% (SCE 2020).

Natural Gas

According to the EIA, California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2020b). In 2019 (the most recent year for which data is available), by sector, industrial uses utilized 36% of the state's natural gas, followed by 33% from electric power, 19% from residential, 11% from commercial, and 1% from transportation uses (EIA 2021a). While the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little, and imports 91% of its supply of natural gas (EIA 2021c).

The Southern California Gas Company (SoCalGas) provides the Project with natural gas service. The territory serviced by SoCalGas encompasses approximately 20,000 square miles and more than 500 communities. In the California Energy Demand mid-energy demand scenario, natural gas demand is projected to have an annual growth rate of 0.03% in SoCalGas's service territory. In 2024, the total capacity available is estimated to be 3.8 billion cubic feet per day (California Gas and Electric Utilities 2020). This amount is approximately equivalent to 3.88 billion thousand British thermal units (kBTU) per day or 38.8 million therms per day. Over the course of a year, the available capacity would therefore be 14.2 billion therms per year, which is well above the existing and future anticipated natural gas demand in the area serviced by SoCalGas.

Petroleum

According to the EIA, California used approximately 681 million barrels of petroleum in 2018, with the majority (584 million barrels) used for the transportation sector (EIA 2021d). There are 42 U.S. gallons in a barrel, so this equates to a total daily use of approximately 78.4 million gallons of petroleum among all sectors and 67.2 million gallons for the transportation sector. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in Section 4.5.2.

5.2 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to energy are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to energy would occur if the Project would:

A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.
B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.
C. Result in cumulatively considerable energy impacts.

5.3 Approach and Methodology

At the time the Certified EIR was prepared, energy was not part of the CEQA Appendix G guidelines and therefore was not evaluated. However, information regarding the projects energy use is located within Appendix B to the Certified EIR in the CalEEMod appendix. The Certified EIR relied upon CalEEMod version 2011.1.1 for estimating energy use.

CalEEMod has been used to determine the Project's anticipated transportation and facility energy demands (as discussed in Sections 3.3 and 4.3). For purposes of this analysis, the 2026 analysis year was utilized to determine the average vehicle fuel economy used throughout the duration of the Project.

5.3.1 Construction

Construction of the Project would result in energy consumption primarily associated with use of off-road construction equipment, on-road vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in the Methodology subsection in Section 3.3.1, are also applicable for the estimation of construction-related energy consumption. As such, see Section 3.3.1 for a discussion of construction calculation methodology and assumptions used in the energy analysis. In addition to those assumptions discussed in Section 3.3.1, the following methodology was used to estimate construction energy consumption.

Electricity

Electricity is not expected to be consumed in large quantity during Project construction, as construction equipment and vehicles are not electric but rather diesel- or gas-powered. Although electrical service will be established to serve construction, the amount of electricity that will be used is likely to be small. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, would be provided by SCE.

Natural Gas

Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection.

Petroleum

Potential impacts were assessed through projected traffic trip generation during construction as provided by the CalEEMod outputs in the air quality calculations (Appendix C-1). Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton of CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton of CO_2 per gallon (The Climate Registry 2021). Heavy-duty construction equipment associated with construction activities and vendor trucks were assumed to use diesel fuel. It was assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles. Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel.

5.3.2 Operation

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by on-road vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Electricity

The Project's operational phase would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, and appliances, including refrigeration, electronics, equipment, machinery, electric forklifts and yard trucks. Energy would also be consumed during operation of the Project related to water usage, solid waste disposal, and electric vehicle trips. CalEEMod version 2022 was used to analyze electrical usage, other than electric vehicle trips, during operation; the default value for electricity consumption for the proposed warehouse land uses was applied for the Project (CAPCOA 2023).

Natural gas

Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and cooling. Natural gas would be supplied to the Project by SoCalGas. Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used.

Petroleum

The fuel consumption resulting from the Project's operational phase would be attributable to vehicles traveling to and from the Project site. Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies for the vehicles accessing the Project site. With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in Section 3.3.2, the Project would generate an estimated 1,404,871 annual VMT along area roadways for all worker vehicles and 1,036,600 annual VMT for trucks. In total, the Project is anticipated to generate 2,441,471 annual VMT at final buildout (Attachment A).

5.4 Impacts Analysis

5.4.1 Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Less-than-Significant Impact. The Project consumption of energy resources during construction and operation would be less than significant, as discussed in further detail below.

Certified EIR

Electricity

Construction Electricity Usage

Temporary electric power for lighting and electronic equipment, such as computers, may be needed inside temporary construction trailers. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the Project. The *2022 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction land area per month of $2.41, which was used to calculate the Project's total construction power cost (Pray 2022).

Based on information provided in the Certified EIR, construction activities are anticipated to occur over 67 months. As detailed in Table 13, Construction Power Cost – Certified EIR, the total electrical cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $307,632.74 in 2022 dollars.

Table 13. Construction Power Cost – Certified EIR

Land Use	Power Cost (per 1,000 square feet of construction per month)	Size (1,000 square feet)	Construction Duration (months)	Project Construction Power Cost
Office Park	$2.41	465.3	36	$40,369.43
Unrefrigerated Warehouse-No Rail	$2.41	3,080.49	36	$267,263.31
			Total	$307,632.74

Source: Pray 2022.

SCE's general service rate schedule were used to determine the Project's electrical usage. As of January 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for industrial services (SCE n.d.). By dividing the cost in Table 13 by the SCE rate, the total electricity usage from on-site Project construction related activities is estimated to be approximately 2,366,406 kWh.

Table 14. Construction Electricity Usage – Certified EIR

Project Component and Land Use	Cost per kWh	Project Construction Power Cost	Project Construction Electricity Usage (kWh)
Office Park	$0.13	$40,369.43	310,534
Unrefrigerated Warehouse-No Rail	$0.13	$267,263.31	2,055,872
		Total	2,366,406

Source: SCE n.d.
Note: kWh: kilowatt-hour.

Operational Electricity Usage

The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, electronics, electric pumps, and electric vehicles as described above. CalEEMod was used to estimate Project emissions from electricity uses (see the Project's Air Quality Impact Analysis for calculations). Default electricity generation rates in CalEEMod were used based on the proposed land use and climate zone. Table 15 shows the estimated annual Operational Electricity Demand by land use.

Table 15. Project Annual Operational Electricity Demand Summary – Certified EIR

Electricity Demand	kWh/year
Office Park	5,188,120
Unrefrigerated Warehouse	9,303,080
Total Project Electricity Demand	**14,491,200**

Source: URS 2013.
Note: kWh = kilowatt hour

As shown in Table 13, the Project is anticipated to consume approximately 14,491,200 kilo-watt hours of electricity per year. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project electricity demands in total would be comparable to other projects of similar scale and configuration. Additionally, the Project would be required to comply with the applicable Title 24 standards which would further ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary and impacts would be less than significant.

Natural Gas

Construction Natural Gas Usage

Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below. Any minor amounts of natural gas that may be consumed as a result of Project construction would be temporary and negligible, and would not have an adverse effect; therefore, impacts would be less than significant.

Operational Natural Gas Usage

Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and cooling. Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used. Table 16 presents the annual operational natural gas demand.

Table 16. Project Annual Operational Natural Gas Demand Summary – Certified EIR

Natural Gas Demand	kBTU/year
Office Park	1,428,480
Unrefrigerated Warehouse-No Rail	6,592,250
Total Project Electricity Demand	**8,020,730**

Source: URS 2013.
Note: kBTU = kilo-British Thermal Units

As shown in Table 16 the Certified EIR is estimated to have a total natural gas demand of 8,020,730 kBTU per year. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project natural gas demands in total would be comparable to other projects of similar scale and configuration. Additionally, the Project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to Project approval, the applicant would ensure that the Project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. Thus, the natural gas consumption of the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

Petroleum

Construction Petroleum Usage

Petroleum would be consumed throughout construction of the Project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities and haul trucks involved in relocating dirt around the Project site are assumed to use diesel fuel. Construction workers would travel to and from the Project site throughout the duration of construction. It is assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during Project construction. CalEEMod was used to estimate construction equipment usage; results are included in the Certified EIR. The estimated diesel fuel usage from construction equipment, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles is shown in Table 17.

Table 17. Construction Petroleum Demand – Certified EIR

Project	Off-road Equipment (diesel)	Vendor Trucks (diesel)	Haul Trucks (Diesel)	Worker Vehicles (gasoline)
	Gallons			
Site Preparation	189,682.66	0	0	6,875.85
Grading	354,047.01	0	227,854.06	7,141.23
Building Construction	216,476.00	357,412.34	0	582,500.00
Paving	74,640.55	0	0	6,205.01
Architectural Coating	14,187.07	0	0	76,128.70
Total	**849,033.30**	**357,412.34**	**227,854.06**	**678,850.80**

Source: URS 2013.

In summary, construction of the Project is conservatively anticipated to consume 678,851 gallons of gasoline and 1,434,300 gallons of diesel.

Operational Petroleum Usage

During operations, the majority of fuel consumption resulting from the Project would involve the use of motor vehicles traveling to and from the Project site, as well as fuels used for alternative modes of transportation that may be used by employees of the Project.

Petroleum fuel consumption associated with motor vehicles traveling to and from the Project site is a function of the VMT as a result of Project operation. The annual VMT attributable to the Project is expected to be 32,427,619 VMT (URS 2013). Fuel demand estimates for the Project are provided in Table 18.

Table 18. Total Project-generated Transportation Annual Fuel Demand – Certified EIR

Vehicle Type	Vehicle MT CO_2	$Kg/CO_2/Gallon$	Estimated Annual Fuel Consumption (gallons)
Gasoline	17,082.54	8.78	1,945,620
Diesel	4,172.61	10.21	408,679
		Total	**2,354,298**

Source: URS 2013.

As summarized on Table 18, the Project would result in an estimated annual fuel demand of 2,354,298 gallons of fuel.

Project

Electricity

Construction Electricity Usage

Temporary electric power for lighting and electronic equipment, such as computers, may be needed inside temporary construction trailers. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the Project. The *2022 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction land area per month of $2.41, which was used to calculate the Project's total construction power cost (Pray 2022).

Based on information provided in Section 4.3, Air Quality, and specifically, Section 4.3.4, construction activities are anticipated to occur over 13 months. This is conservative as each land use would not take 13 months to construct. As detailed in Table 19, Construction Power Cost - Project, the total electrical cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $122,352.28 in 2022 dollars.

Table 19. Construction Power Cost - Project

Land Use	Power Cost (per 1,000 square feet of construction per month)	Size (1,000 square feet)	Construction Duration (months)	Project Construction Power Cost
Unrefrigerated Warehouse-No Rail	$2.41	75	13	$2,349.75
Unrefrigerated Warehouse-Rail	$2.41	75	13	$2,349.75
			Construction Power Cost in 2022 Dollars	**$4,699.50**

Source: Pray 2022.

SCE's general service rate schedule were used to determine the Project's electrical usage. As of January 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for industrial services (SCE n.d.). By

dividing the cost in Table 19 by the SCE rate, the total electricity usage from on-site Project construction related activities is estimated to be approximately 36,150 kWh.

Table 20. Construction Electricity Usage – Project

Project Component and Land Use	Cost per kWh	Project Construction Power Cost	Project Construction Electricity Usage (kWh)
Unrefrigerated Warehouse-No Rail	$0.13	$2,349.75	18,075
Unrefrigerated Warehouse-Rail	$0.13	$2,349.75	18,075
		Total Construction Electricity Usage (kWh)	**36,150**

Source: SCE n.d.
Note: kWh: kilowatt-hour.

Operational Electricity Usage

The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, electronics, electric pumps, and electric vehicles as described above. CalEEMod was used to estimate Project emissions from electricity uses. Default electricity generation rates in CalEEMod were used based on the proposed land use and climate zone. Table 21 shows the estimated annual Operational Electricity Demand by land use.

Table 21. Project Annual Operational Electricity Demand Summary – Project

Electricity Demand	kWh/year
Unrefrigerated Warehouse-No Rail	86,601
Unrefrigerated Warehouse-Rail	86,601
Parking Lot	82,404
Total Project Electricity Demand	**255,606**

Source: Attachment A.
Note: kWh = kilowatt hour

As shown in Table 21, the Project is anticipated to consume approximately 255,606 kilo-watt hours of electricity per year. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project electricity demands in total would be comparable to other projects of similar scale and configuration. Additionally, the Project would be required to comply with the applicable Title 24 standards which would further ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary and impacts would be less than significant.

Natural Gas

Construction Natural Gas Usage

Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below. Any minor amounts of natural gas that may be consumed as a result of Project construction would be temporary and negligible, and would not have an adverse effect; therefore, impacts would be less than significant.

Operational Natural Gas Usage

Natural gas consumption during operation would be required for various purposes, including, but not limited to, building heating and cooling. Default natural gas generation rates in CalEEMod for the proposed land use and climate zone were used. Table 22 presents the annual operational natural gas demand.

Table 22. Project Annual Operational Natural Gas Demand Summary – Project

Natural Gas Demand	kBTU/year
Unrefrigerated Warehouse-No Rail	1,425,801
Unrefrigerated Warehouse-Rail	1,425,801
Total Project Electricity Demand	**2,851,602**

Source: Attachment A.
Note: kBTU = kilo-British Thermal Units

As shown in Table 22 the Project is estimated to have a total natural gas demand of 2,851,602 kBTU per year. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project natural gas demands in total would be comparable to other projects of similar scale and configuration. Additionally, the Project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to Project approval, the applicant would ensure that the Project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process. Thus, the natural gas consumption of the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

Petroleum

Construction Petroleum Usage

Petroleum would be consumed throughout construction of the Project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities and haul trucks involved in relocating dirt around the Project site are assumed to use diesel fuel. Construction workers would travel to and from the Project site throughout the duration of construction. It is assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during Project construction. CalEEMod was used to estimate construction equipment usage; results are included in Attachment A. The estimated diesel fuel usage from construction equipment, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles is shown in Table 23.

Table 23. Construction Petroleum Demand – Project

Project	Off-road Equipment (diesel)	Vendor Trucks (diesel)	Haul Trucks (Diesel)	Worker Vehicles (gasoline)
	Gallons			
Demolition	3,499.71	130.26	0	252.85
Site Preparation	5,410.38	130.26	0	284.74
Grading	18,762.00	2,189.03	0	5,309.79
Building Construction	18,641.53	5,945.15	0	7,451.03
Paving	2,972.58	248.78	0	481.78
Architectural Coating	135.16	129.29	0	187.93
Total	**49,421.35**	**8,772.77**	**0**	**13,968.11**

Source: Attachment A.

In summary, construction of the Project is conservatively anticipated to consume 13,968 gallons of gasoline and 58,194 gallons of diesel. Notably, the Project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements. Project construction would represent a "single-event" petroleum demand and would not require on-going or permanent commitment of petroleum resources for this purpose. Overall, the Project would not be unusual as compared to overall local and regional demand for energy resources and would not involve characteristics that require equipment that would be less energy-efficient than at comparable construction sites in the region or state. Therefore, impacts would be less than significant

Operational Petroleum Usage

During operations, the majority of fuel consumption resulting from the Project would involve the use of motor vehicles traveling to and from the Project site, as well as fuels used for alternative modes of transportation that may be used by employees of the Project.

Petroleum fuel consumption associated with motor vehicles traveling to and from the Project site is a function of the VMT as a result of Project operation. The annual VMT attributable to the Project is expected to be 2,500,007 VMT (Attachment A). Fuel demand estimates for the Project are provided in Table 24.

Table 24. Total Project-generated Transportation Annual Fuel Demand – Project

Vehicle Type	Vehicle MT CO_2	Kg/CO_2/Gallon	Estimated Annual Fuel Consumption (gallons)
Gasoline	1,407.51	8.78	160,308.60
Diesel	1,033.95	10.21	101,268.41
		Total	**261,826.44**

Source: Attachment A.

As summarized on Table 24, the Project would result in an estimated annual fuel demand of 261,826 gallons of fuel. Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration. That is, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. In compliance with CALGreen, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. Facilitating pedestrian and bicycle access for employees would reduce VMT and associated energy consumption. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary and impacts would be less than significant.

Renewable Energy Potential

As stated in Section 4.3.2, the Project shall include rooftop solar panels to offset at least 75% of the electricity demand of the project (at least 519,604 kWh per year). Other renewable energy systems including wind turbine generation, geothermal generation, energy storage and other renewable energy generation features are not considered technically or economically feasible and/or demonstrated for a similar project. Additionally, site constraints include limited land availability and incompatibility with land use for large scale power generation facilities as well as unknown interconnection feasibility and compatibility with utility provider systems. For these reasons other onsite renewable energy systems are not considered feasible for the proposed project.

Summary

The Project would result in less electricity, natural gas, and petroleum use when compared to the Certified EIR during construction and operation. The Project would not result in a wasteful use of energy consumption during construction or operation. Impacts would be less than significant.

5.4.2 Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. The Project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR Part 6). Part 6 of Title 24 establishes energy efficiency standards for non-residential buildings constructed in California in order to reduce energy demand and consumption. As such, the Project would comply with the California code requirements for energy efficiency.

Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the Project under CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, high-rise residential, state-owned buildings, schools, and hospitals, as well as certain residential and non-residential additions and alterations. Additionally, energy consumed by the Project's operation is calculated to be comparable to energy consumed by other industrial uses of similar scale and intensity that are constructed and operating in California. The Project would include onsite solar energy to offset at least 75% of the Project's electricity demand. As shown in Section 4.4.2, the Project would be consistent with the City's CAP. On this basis, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.

5.4.3 Would the Project result in a cumulatively considerable energy impact?

Less-than-Significant Impact. Cumulative projects that could exacerbate the Project's impacts include any projects that could result in wasteful, inefficient, or unnecessary use of energy. However, the Project would not result in wasteful, inefficient, or unnecessary use of energy during construction or operation. Construction will result in short-term and temporary energy demands. Operation of the Project would not result in a wasteful, inefficient or unnecessary use of energy or conflict with an applicable plan. Therefore, the Project would have a less-than-significant impact with regards to cumulative energy impacts.

6 Conclusions

Criteria air pollutant emissions generated during construction and operation of the Project would not exceed the MDAQMD's significance thresholds or result in a cumulatively considerable net increase in emissions. Therefore, the Project would result in a less than significant impact. Furthermore, the Project would result in fewer criteria air pollutant emissions during construction and operation when compared to the Certified EIR.

Estimated total GHG emissions generated during operation, including amortized construction emissions, would not exceed the SCAQMD's draft threshold of 3,000 MT CO_2e per year. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts would be less than significant. Furthermore, the Project would result in fewer GHG emissions during construction and operation when compared to the Certified EIR.

The Project would not result in a to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant. The Project would result in less electricity, natural gas, and petroleum use when compared to the Certified EIR during construction and operation.

7 References Cited

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Gas and Electric Utilities (Southern California Gas Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southwest Gas Corporation, City of Long Beach Gas & Oil Department, and Southern California Edison Company). 2020a. 2020 California Gas Report. Accessed November 2020. https://www.socalgas.com/regulatory/cgr.shtml.

California Gas and Electric Utilities. 2020b. California Gas Report. Accessed June 23, 2022. https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf.

CARB (California Air Resources Board). 2011. "Facts About The Advanced Clean Cars Program." November 9, 2011. Accessed April 19, 2017. http://www.arb.ca.gov/msprog/zevprog/factsheets/advanced_clean_cars_eng.pdf.

CARB. 2014. "Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation." August 29, 2014. Accessed April 19, 2017. http://www.arb.ca.gov/msprog/onrdiesel/documents/FSRegSum.pdf.

CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January 20. Accessed January 2019. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2021a. Advanced Clean Cars Program. Accessed December 2021 at https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about.

CARB. 2021b. Advanced Clean Trucks Fact Sheet. August 20, 2021. Accessed at https://ww2.arb.ca.gov/sites/default/files/2021-08/200625factsheet_ADA.pdf

CARB. 2021c. Low Carbon Fuel Standard Data Dashboard. August 30. https://www.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm.

CARB. 2021d. "Area Designation Maps/State and National." Accessed November 17, 2021. http://www.arb.ca.gov/desig/adm/adm.htm.

CARB 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Accessed March 2023. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008.

CAPCOA 2023. California Emissions Estimator Model. Accessed March 2023. https://www.caleemod.com/release-notes

CAT (Climate Action Team). 2010. *Climate Action Team Biennial Report*. Sacramento, California. April 2010. Accessed January 2019. http://www.energy.ca.gov/2010publications/CAT-1000-2010-004/CAT-1000-2010-004.PDF.

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

CEC. 2018b. The California Energy Demand 2018-2030 Revised Forecast. January 2018. Accessed June 23, 2022. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-03/TN222287_20180120T141708_The_California_Energy_Demand_20182030_Revised_Forecast.pdf.

CEC. 2021. 2020 Power Content Label Southern California Edison. Accessed June 2022. https://www.energy.ca.gov/filebrowser/download/3902.

CEC. 2022a. Electricity Consumption By County. Accessed June 2022. http://www.ecdms.energy.ca.gov/elecbycounty.aspx.

CEC. 2022b. Gas Consumption By County. Accessed June 2022. http://www.ecdms.energy.ca.gov/gasbycounty.aspx.

City of Hesperia. 2010. Climate Action Plan. July 20. https://www.cityofhesperia.us/DocumentCenter/View/1587/Climate-Action-Plan-7210?bidId=.

City of Hesperia. 2021. Hesperia Main Street and Freeway Corridor Specific Plan. July 15. https://www.cityofhesperia.us/DocumentCenter/View/15940/MSFCSP-update?bidId=.

CPUC (California Public Utilities Commission). 2008. 2008 Update Energy Action Plan. February. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2008-energy-action-plan-update.pdf.

CPUC. 2019. 2019 California Renewables Portfolio Standard Annual Report. November 2019. Accessed October 2020. https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/2019%20RPS%20Annual%20Report.pdf

CPUC. 2020. 2020 California Renewables Portfolio Standard *Annual Report*. November 2020. Accessed March 2021. https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/2020%20RPS%20Annual%20Report.pdf.

CPUC. 2021. “Natural Gas and California.” [Online] Accessed March 2021. http://www.cpuc.ca.gov/natural_gas/.

EIA (U.S. Energy Information Administration). 2021. “State Energy Data System (SEDS): 2020—Table F20: Electricity Consumption Estimates, 2020”. December 17, 2021. Accessed June 22, 2022. https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_use_es.pdf.

EIA. 2022a. "Profile Overview–California." Last updated March 17, 2022. Accessed June 22, 2022.. https://www.eia.gov/state/?sid=CA#tabs-4.

EIA. 2022b. "Natural Gas Consumption by End Use." May 31, 2022. Accessed June 22, 2022. https://www.eia.gov/ dnav/ng/ng_cons_sum_a_EPG0_VC0_mmcf_a.htm.

EIA. 2022c. "Total Petroleum Consumption Estimates, 2020." [Online] 2021. Accessed March 2021. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_ pa.html&sid=US&sid=CA.

EPA (U.S. Environmental Protection Agency). 2008. Final Ozone NAAQS Regulatory Impact Analysis. March 2008. https://www3.epa.gov/ttnecas1/regdata/RIAs/452_R_08_003.pdf

EPA. 2017. Support Center for Regulatory Atmospheric Modeling (SCRAM) - Photochemical Air Quality Modeling. https://www.epa.gov/scram/photochemical-air-quality-modeling.

EPA. 2018a. "Ground-level Ozone Basics." Last updated October 31, 2018. https://www.epa.gov /ground-level-ozone-pollution/ground-level-ozone-basics.

EPA. 2018b. Community Multiscale Air Quality (CMAQ) Models. https://www.epa.gov/cmaq/cmaq-models-0.

EPA. 2021. "Region 9: Air Quality Analysis, EPA Region 9 Air Quality Maps and Geographic Information." Last updated June 10, 2021. Accessed November 17, 2021. https://www3.epa.gov/region9/air/maps/index.html.

MDAQMD. 2008. Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-Attainment Area). Adopted June 9, 2008. Accessed November 2021.

MDAQMD. 2020. "MDAQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines." MDAQMD, Planning, Rule Making and Grants Section, Air Monitoring Section. February. Accessed November 17, 2021. https://www.mdaqmd.ca.gov/home/showpublisheddocument/8510/638126583450270000.

NRC (National Research Council). 2005. Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants. Washington, D.C.: The National Academies Press. Accessed November 17, 2021. https://doi.org/10.17226/11208.

Pray, Richard. 2022. 2022 National Construction Estimator. Carlsbad: Craftsman Book Company.

SCAG. 2020. *The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments, Connect SoCal*. Adopted September 3, 2020.

SCAQMD (South Coast Air Quality Management District). 2003a. Final 2003 Air Quality Management Plan, Appendix V Modeling and Attainment Demonstrations. August 2003. Accessed November 17, 2021.

https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf?sfvrsn=2.

SCAQMD. 2010. "Greenhouse Gases CEQA Significance Thresholds Working Group Meeting No. 15." September 28, 2010. Accessed January 2019. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2.

SCAQMD. 2008a. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008. Accessed January 2019. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf.

SCAQMD. 2008b. "Resolution No. 08-35: A Resolution of the Governing Board of the South Coast Air Quality Management District (AQMD) approving the Interim Greenhouse Gas (GHG) Significance Threshold to Be Used by the AQMD for Industrial Source Projects, Rules and Plans When It Is the Lead Agency for Projects Subject to the California Environmental Quality Act (CEQA)." *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*, Attachment C. December 5, 2008.

SCAQMD. 2014. *SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*. June. http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf.

SCE (Southern California Edison). N.d. Schedule GS-1 General Service. Regulatory Information – Rates Pricing. https://library.sce.com/content/dam/sce-doclib/public/regulatory/tariff/electric/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1.pdf.

The Climate Registry. 2021. Default Emission Factors. May. Accessed March 2021. https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf.

URS. 2013. Hesperia Commerce Center Final EIR. November.

Attachment A

CalEEMod Emissions Output

HCC I Lot 5 Project Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HCC I Lot 5 Project
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	1.40
Location	34.40371952725013, -117.4025691680104
County	San Bernardino-Mojave Desert
City	Hesperia
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5106
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Unrefrigerated Warehouse-No Rail	75.0	1000sqft	1.72	75,000	0.00	—	—	—
Parking Lot	2.16	Acre	2.16	0.00	0.00	—	—	—
Unrefrigerated Warehouse-Rail	75.0	1000sqft	1.72	75,000	0.00	—	—	—
Other Non-Asphalt Surfaces	238	1000sqft	5.47	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-8	Provide Ridesharing Program
Transportation	T-53*	Electrify Loading Docks
Energy	E-2	Require Energy Efficient Appliances
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-21*	Install Cool Pavements
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.93	3.31	29.9	30.0	0.06	1.24	9.50	10.7	1.14	3.72	4.86	—	7,053	7,053	0.28	0.15	5.40	7,086

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.98	35.4	54.3	52.1	0.08	2.29	20.2	22.5	2.10	10.2	12.3	—	9,450	9,450	0.38	0.21	0.20	9,496
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.01	3.70	14.8	17.5	0.03	0.60	3.45	4.04	0.55	1.42	1.97	—	3,893	3,893	0.15	0.10	1.35	3,928
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.37	0.67	2.69	3.20	0.01	0.11	0.63	0.74	0.10	0.26	0.36	—	645	645	0.02	0.02	0.22	650

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.93	3.31	29.9	30.0	0.06	1.24	9.50	10.7	1.14	3.72	4.86	—	7,053	7,053	0.28	0.15	5.40	7,086
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.98	35.4	54.3	52.1	0.08	2.29	20.2	22.5	2.10	10.2	12.3	—	9,450	9,450	0.38	0.21	0.20	9,496
2026	2.80	35.3	19.3	29.1	0.05	0.74	1.45	2.19	0.68	0.35	1.03	—	6,222	6,222	0.19	0.21	0.18	6,291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.01	3.70	14.8	17.5	0.03	0.60	3.45	4.04	0.55	1.42	1.97	—	3,893	3,893	0.15	0.10	1.35	3,928
2026	0.06	0.13	0.47	0.70	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	123	123	< 0.005	< 0.005	0.03	124
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.37	0.67	2.69	3.20	0.01	0.11	0.63	0.74	0.10	0.26	0.36	—	645	645	0.02	0.02	0.22	650
2026	0.01	0.02	0.09	0.13	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	20.4	20.4	< 0.005	< 0.005	0.01	20.5

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.93	3.31	29.9	30.0	0.06	1.24	9.50	10.7	1.14	3.72	4.86	—	7,053	7,053	0.28	0.15	5.40	7,086
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.98	35.4	54.3	52.1	0.08	2.29	20.2	22.5	2.10	10.2	12.3	—	9,450	9,450	0.38	0.21	0.20	9,496
2026	2.80	35.3	19.3	29.1	0.05	0.74	1.45	2.19	0.68	0.35	1.03	—	6,222	6,222	0.19	0.21	0.18	6,291
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.01	3.70	14.8	17.5	0.03	0.60	3.45	4.04	0.55	1.42	1.97	—	3,893	3,893	0.15	0.10	1.35	3,928
2026	0.06	0.13	0.47	0.70	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	—	123	123	< 0.005	< 0.005	0.03	124
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.37	0.67	2.69	3.20	0.01	0.11	0.63	0.74	0.10	0.26	0.36	—	645	645	0.02	0.02	0.22	650
2026	0.01	0.02	0.09	0.13	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	20.4	20.4	< 0.005	< 0.005	0.01	20.5

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.19	6.00	26.5	175	0.12	0.34	5.25	5.59	0.33	1.36	1.68	263	17,413	17,676	27.1	1.69	32.2	18,891
Mit.	3.15	5.97	26.5	174	0.12	0.34	5.14	5.48	0.32	1.33	1.66	239	16,737	16,977	24.7	1.63	31.8	18,110

% Reduced	1%	< 0.5%	< 0.5%	< 0.5%	1%	—	2%	2%	—	2%	2%	9%	4%	4%	9%	4%	1%	4%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.93	4.83	26.9	164	0.12	0.33	5.25	5.58	0.32	1.36	1.67	263	17,049	17,312	27.1	1.70	0.84	18,497
Mit.	1.90	4.81	26.9	163	0.11	0.33	5.14	5.46	0.32	1.33	1.65	239	16,387	16,626	24.7	1.63	0.83	17,730
% Reduced	1%	1%	< 0.5%	< 0.5%	1%	—	2%	2%	—	2%	2%	9%	4%	4%	9%	4%	1%	4%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.32	5.20	26.6	167	0.12	0.31	5.24	5.55	0.29	1.36	1.65	263	17,047	17,310	27.1	1.70	13.9	18,508
Mit.	2.29	5.17	26.5	167	0.11	0.31	5.13	5.44	0.29	1.33	1.62	239	16,381	16,621	24.7	1.63	13.7	17,738
% Reduced	1%	< 0.5%	< 0.5%	< 0.5%	1%	—	2%	2%	—	2%	2%	9%	4%	4%	9%	4%	1%	4%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.42	0.95	4.85	30.5	0.02	0.06	0.96	1.01	0.05	0.25	0.30	43.5	2,822	2,866	4.49	0.28	2.30	3,064
Mit.	0.42	0.94	4.84	30.5	0.02	0.06	0.94	0.99	0.05	0.24	0.30	39.6	2,712	2,752	4.08	0.27	2.27	2,937
% Reduced	1%	< 0.5%	< 0.5%	< 0.5%	1%	< 0.5%	2%	2%	< 0.5%	2%	2%	9%	4%	4%	9%	4%	1%	4%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.01	0.90	8.33	14.9	0.11	0.17	5.25	5.42	0.16	1.36	1.52	—	10,945	10,945	0.08	1.21	32.2	11,339
Area	1.16	4.52	0.05	6.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9

Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,649	1,649	0.15	0.01	—	1,656
Water	—	—	—	—	—	—	—	—	—	—	—	187	532	719	19.2	0.46	—	1,336
Waste	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Off-Road	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Stationary	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Total	3.19	6.00	26.5	175	0.12	0.34	5.25	5.59	0.33	1.36	1.68	263	17,413	17,676	27.1	1.69	32.2	18,891
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.92	0.81	8.81	10.5	0.10	0.17	5.25	5.42	0.16	1.36	1.52	—	10,608	10,608	0.08	1.21	0.84	10,973
Area	—	3.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,649	1,649	0.15	0.01	—	1,656
Water	—	—	—	—	—	—	—	—	—	—	—	187	532	719	19.2	0.46	—	1,336
Waste	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Off-Road	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Stationary	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Total	1.93	4.83	26.9	164	0.12	0.33	5.25	5.58	0.32	1.36	1.67	263	17,049	17,312	27.1	1.70	0.84	18,497
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.93	0.82	8.93	11.6	0.10	0.17	5.24	5.41	0.16	1.36	1.52	—	10,684	10,684	0.08	1.22	13.9	11,062
Area	0.57	3.98	0.03	3.22	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	13.2	13.2	< 0.005	< 0.005	—	13.3
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,649	1,649	0.15	0.01	—	1,656
Water	—	—	—	—	—	—	—	—	—	—	—	187	532	719	19.2	0.46	—	1,336
Waste	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Off-Road	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Stationary	0.07	0.07	0.19	0.24	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	34.5	34.5	< 0.005	< 0.005	0.00	34.6
Total	2.32	5.20	26.6	167	0.12	0.31	5.24	5.55	0.29	1.36	1.65	263	17,047	17,310	27.1	1.70	13.9	18,508

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.15	1.63	2.11	0.02	0.03	0.96	0.99	0.03	0.25	0.28	—	1,769	1,769	0.01	0.20	2.30	1,831
Area	0.10	0.73	< 0.005	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.19	2.19	< 0.005	< 0.005	—	2.20
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	273	273	0.02	< 0.005	—	274
Water	—	—	—	—	—	—	—	—	—	—	—	30.9	88.1	119	3.18	0.08	—	221
Waste	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.0
Off-Road	0.12	0.05	3.04	27.7	< 0.005	0.01	—	0.01	0.01	—	0.01	—	684	684	0.02	< 0.005	—	685
Stationary	0.01	0.01	0.03	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.71	5.71	< 0.005	< 0.005	0.00	5.73
Total	0.42	0.95	4.85	30.5	0.02	0.06	0.96	1.01	0.05	0.25	0.30	43.5	2,822	2,866	4.49	0.28	2.30	3,064

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.98	0.87	8.31	14.3	0.10	0.17	5.14	5.31	0.16	1.33	1.49	—	10,829	10,829	0.08	1.21	31.8	11,222
Area	1.16	4.52	0.05	6.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,156	1,156	0.10	< 0.005	—	1,160
Water	—	—	—	—	—	—	—	—	—	—	—	163	465	629	16.8	0.40	—	1,168
Waste	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Off-Road	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Stationary	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Total	3.15	5.97	26.5	174	0.12	0.34	5.14	5.48	0.32	1.33	1.66	239	16,737	16,977	24.7	1.63	31.8	18,110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.89	0.78	8.78	10.2	0.10	0.17	5.14	5.31	0.16	1.33	1.49	—	10,505	10,505	0.08	1.21	0.83	10,869
Area	—	3.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,156	1,156	0.10	< 0.005	—	1,160
Water	—	—	—	—	—	—	—	—	—	—	—	163	465	629	16.8	0.40	—	1,168
Waste	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Off-Road	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Stationary	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Total	1.90	4.81	26.9	163	0.11	0.33	5.14	5.46	0.32	1.33	1.65	239	16,387	16,626	24.7	1.63	0.83	17,730
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.90	0.80	8.90	11.2	0.10	0.17	5.13	5.30	0.16	1.33	1.49	—	10,578	10,578	0.08	1.21	13.7	10,955
Area	0.57	3.98	0.03	3.22	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	13.2	13.2	< 0.005	< 0.005	—	13.3
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,156	1,156	0.10	< 0.005	—	1,160
Water	—	—	—	—	—	—	—	—	—	—	—	163	465	629	16.8	0.40	—	1,168
Waste	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Off-Road	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Stationary	0.07	0.07	0.19	0.24	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	34.5	34.5	< 0.005	< 0.005	0.00	34.6
Total	2.29	5.17	26.5	167	0.11	0.31	5.13	5.44	0.29	1.33	1.62	239	16,381	16,621	24.7	1.63	13.7	17,738
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.15	1.62	2.04	0.02	0.03	0.94	0.97	0.03	0.24	0.27	—	1,751	1,751	0.01	0.20	2.27	1,814
Area	0.10	0.73	< 0.005	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.19	2.19	< 0.005	< 0.005	—	2.20
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	191	191	0.02	< 0.005	—	192
Water	—	—	—	—	—	—	—	—	—	—	—	27.0	77.0	104	2.78	0.07	—	193
Waste	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.0
Off-Road	0.12	0.05	3.04	27.7	< 0.005	0.01	—	0.01	0.01	—	0.01	—	684	684	0.02	< 0.005	—	685
Stationary	0.01	0.01	0.03	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.71	5.71	< 0.005	< 0.005	0.00	5.73

Total	0.42	0.94	4.84	30.5	0.02	0.06	0.94	0.99	0.05	0.24	0.30	39.6	2,712	2,752	4.08	0.27	2.27	2,937

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.40	1.26	< 0.005	0.06	—	0.06	0.05	—	0.05	—	216	216	0.01	< 0.005	—	217
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.7	35.7	< 0.005	< 0.005	—	35.9

Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.89	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	207	207	0.01	0.01	0.02	209
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.36
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.22	2.22	< 0.005	< 0.005	< 0.005	2.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.40	1.26	< 0.005	0.06	—	0.06	0.05	—	0.05	—	216	216	0.01	< 0.005	—	217
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.7	35.7	< 0.005	< 0.005	—	35.9
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.08	0.89	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	207	207	0.01	0.01	0.02	209
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.36
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.22	2.22	< 0.005	< 0.005	< 0.005	2.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.99	1.90	< 0.005	0.09	—	0.09	0.08	—	0.08	—	334	334	0.01	< 0.005	—	335
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.64	0.64	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.35	< 0.005	0.02	—	0.02	0.01	—	0.01	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.00	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	0.01	0.01	0.02	235
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.36

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.99	1.90	< 0.005	0.09	—	0.09	0.08	—	0.08	—	334	334	0.01	< 0.005	—	335
Dust From Material Movement	—	—	—	—	—	—	1.24	1.24	—	0.64	0.64	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.35	< 0.005	0.02	—	0.02	0.01	—	0.01	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Dust From Material Movement	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.00	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	0.01	0.01	0.02	235
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.03	8.03	< 0.005	< 0.005	0.01	8.36
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movemen	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movemen	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.20	4.96	0.01	0.22	—	0.22	0.20	—	0.20	—	1,157	1,157	0.05	0.01	—	1,161
Dust From Material Movemen	—	—	—	—	—	—	1.61	1.61	—	0.64	0.64	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	192	192	0.01	< 0.005	—	192
Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.66	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	292	292	0.01	0.01	1.07	296
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	127	127	< 0.005	0.02	0.35	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.11	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	258	258	0.01	0.01	0.03	262
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	46.6	46.6	< 0.005	< 0.005	0.08	47.3
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.4	22.4	< 0.005	< 0.005	0.03	23.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.72	7.72	< 0.005	< 0.005	0.01	7.83
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	< 0.005	3.85

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movemen	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movemen	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.20	4.96	0.01	0.22	—	0.22	0.20	—	0.20	—	1,157	1,157	0.05	0.01	—	1,161

Dust From Material Movemen	—	—	—	—	—	—	1.61	1.61	—	0.64	0.64	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	192	192	0.01	< 0.005	—	192
Dust From Material Movemen	—	—	—	—	—	—	0.29	0.29	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.66	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	292	292	0.01	0.01	1.07	296
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	127	127	< 0.005	0.02	0.35	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.11	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	258	258	0.01	0.01	0.03	262
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	46.6	46.6	< 0.005	< 0.005	0.08	47.3
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.4	22.4	< 0.005	< 0.005	0.03	23.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.72	7.72	< 0.005	< 0.005	0.01	7.83
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	< 0.005	3.85
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.54	4.99	6.23	0.01	0.21	—	0.21	0.19	—	0.19	—	1,145	1,145	0.05	0.01	—	1,149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.91	1.14	< 0.005	0.04	—	0.04	0.03	—	0.03	—	190	190	0.01	< 0.005	—	190

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.34	0.30	5.15	0.00	0.00	0.81	0.81	0.00	0.19	0.19	—	904	904	0.04	0.03	3.31	918
Vendor	0.03	0.03	0.78	0.34	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	764	764	< 0.005	0.10	2.09	797
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.33	3.46	0.00	0.00	0.81	0.81	0.00	0.19	0.19	—	801	801	0.04	0.03	0.09	811
Vendor	0.03	0.03	0.82	0.35	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	765	765	< 0.005	0.10	0.05	796
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.17	1.85	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	394	394	0.02	0.01	0.68	399
Vendor	0.01	0.01	0.39	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	365	365	< 0.005	0.05	0.43	380
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	65.2	65.2	< 0.005	< 0.005	0.11	66.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.5	60.5	< 0.005	0.01	0.07	63.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.54	4.99	6.23	0.01	0.21	—	0.21	0.19	—	0.19	—	1,145	1,145	0.05	0.01	—	1,149
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.91	1.14	< 0.005	0.04	—	0.04	0.03	—	0.03	—	190	190	0.01	< 0.005	—	190
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.34	0.30	5.15	0.00	0.00	0.81	0.81	0.00	0.19	0.19	—	904	904	0.04	0.03	3.31	918
Vendor	0.03	0.03	0.78	0.34	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	764	764	< 0.005	0.10	2.09	797
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.33	3.46	0.00	0.00	0.81	0.81	0.00	0.19	0.19	—	801	801	0.04	0.03	0.09	811
Vendor	0.03	0.03	0.82	0.35	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	765	765	< 0.005	0.10	0.05	796
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.17	1.85	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	394	394	0.02	0.01	0.68	399
Vendor	0.01	0.01	0.39	0.16	< 0.005	0.01	0.10	0.10	0.01	0.03	0.03	—	365	365	< 0.005	0.05	0.43	380
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	65.2	65.2	< 0.005	< 0.005	0.11	66.1
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	60.5	60.5	< 0.005	0.01	0.07	63.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.69	4.69	< 0.005	< 0.005	—	4.71
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.78	0.78	< 0.005	< 0.005	—	0.78
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.30	3.19	0.00	0.00	0.81	0.81	0.00	0.19	0.19	—	785	785	0.01	0.03	0.08	794
Vendor	0.03	0.03	0.79	0.33	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	750	750	< 0.005	0.10	0.05	781
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.69	4.69	< 0.005	< 0.005	—	4.71
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.78	0.78	< 0.005	< 0.005	—	0.78
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.29	0.26	0.30	3.19	0.00	0.00	0.81	0.81	0.00	0.19	0.19	—	785	785	0.01	0.03	0.08	794
Vendor	0.03	0.03	0.79	0.33	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	750	750	< 0.005	0.10	0.05	781
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.47	1.47	< 0.005	< 0.005	< 0.005	1.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.45	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.7	91.7	< 0.005	< 0.005	—	92.0
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.89	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	207	207	0.01	0.01	0.02	209
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.02	13.1
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.73	7.73	< 0.005	< 0.005	0.01	8.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.33
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.7	91.7	< 0.005	< 0.005	—	92.0
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.89	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	207	207	0.01	0.01	0.02	209
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.02	13.1
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.73	7.73	< 0.005	< 0.005	0.01	8.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.33
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.43	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.6	91.6	< 0.005	< 0.005	—	92.0
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.82	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.02	205
Vendor	< 0.005	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	< 0.005	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.02	12.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.58	7.58	< 0.005	< 0.005	0.01	7.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.12

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.43	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.6	91.6	< 0.005	< 0.005	—	92.0
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.2	15.2	< 0.005	< 0.005	—	15.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.82	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.02	205
Vendor	< 0.005	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	< 0.005	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.02	12.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.58	7.58	< 0.005	< 0.005	0.01	7.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.10	8.10	< 0.005	< 0.005	—	8.13
Architectural Coatings	—	1.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.35
Architectural Coatings	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.67	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	0.01	0.01	0.02	157
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.81
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.73	7.73	< 0.005	< 0.005	0.01	8.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.60	1.60	< 0.005	< 0.005	< 0.005	1.62
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.33
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.10	8.10	< 0.005	< 0.005	—	8.13

Architect Coatings	—	1.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.35
Architectural Coatings	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.67	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	0.01	0.01	0.02	157
Vendor	< 0.005	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.01	133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.68	9.68	< 0.005	< 0.005	0.02	9.81
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.73	7.73	< 0.005	< 0.005	0.01	8.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.60	1.60	< 0.005	< 0.005	< 0.005	1.62
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.28	1.28	< 0.005	< 0.005	< 0.005	1.33
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.62	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	152	152	< 0.005	0.01	0.02	154
Vendor	< 0.005	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	< 0.005	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.26	0.26	< 0.005	< 0.005	—	0.26
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.62	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	152	152	< 0.005	0.01	0.02	154

Vendor	< 0.005	< 0.005	0.13	0.05	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	125	125	< 0.005	0.02	0.01	130
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.78	0.70	0.67	12.9	0.03	0.01	2.78	2.79	0.01	0.70	0.71	—	2,908	2,908	0.06	0.06	9.91	2,938
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Unrefrigerated	0.24	0.20	7.67	1.99	0.08	0.16	2.47	2.63	0.15	0.66	0.81	—	8,037	8,037	0.02	1.14	22.3	8,401
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.01	0.90	8.33	14.9	0.11	0.17	5.25	5.42	0.16	1.36	1.52	—	10,945	10,945	0.08	1.21	32.2	11,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.69	0.62	0.74	8.52	0.03	0.01	2.78	2.79	0.01	0.70	0.71	—	2,568	2,568	0.06	0.07	0.26	2,590
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	0.23	0.19	8.07	2.00	0.08	0.16	2.47	2.63	0.15	0.66	0.81	—	8,040	8,040	0.02	1.15	0.58	8,383
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.92	0.81	8.81	10.5	0.10	0.17	5.25	5.42	0.16	1.36	1.52	—	10,608	10,608	0.08	1.21	0.84	10,973
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.13	0.11	0.14	1.75	< 0.005	< 0.005	0.51	0.51	< 0.005	0.13	0.13	—	438	438	0.01	0.01	0.71	442
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	0.04	0.04	1.49	0.36	0.01	0.03	0.45	0.48	0.03	0.12	0.15	—	1,331	1,331	< 0.005	0.19	1.59	1,389

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.17	0.15	1.63	2.11	0.02	0.03	0.96	0.99	0.03	0.25	0.28	—	1,769	1,769	0.01	0.20	2.30	1,831

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.74	0.67	0.64	12.4	0.03	0.01	2.67	2.68	0.01	0.67	0.68	—	2,792	2,792	0.06	0.06	9.52	2,821
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	0.24	0.20	7.67	1.99	0.08	0.16	2.47	2.63	0.15	0.66	0.81	—	8,037	8,037	0.02	1.14	22.3	8,401
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.98	0.87	8.31	14.3	0.10	0.17	5.14	5.31	0.16	1.33	1.49	—	10,829	10,829	0.08	1.21	31.8	11,222
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.66	0.59	0.71	8.18	0.02	0.01	2.67	2.68	0.01	0.67	0.68	—	2,465	2,465	0.06	0.07	0.25	2,486

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	0.23	0.19	8.07	2.00	0.08	0.16	2.47	2.63	0.15	0.66	0.81	—	8,040	8,040	0.02	1.15	0.58	8,383
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.89	0.78	8.78	10.2	0.10	0.17	5.14	5.31	0.16	1.33	1.49	—	10,505	10,505	0.08	1.21	0.83	10,869
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.12	0.11	0.14	1.68	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.12	—	420	420	0.01	0.01	0.68	425
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	0.04	0.04	1.49	0.36	0.01	0.03	0.45	0.48	0.03	0.12	0.15	—	1,331	1,331	< 0.005	0.19	1.59	1,389
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.17	0.15	1.62	2.04	0.02	0.03	0.94	0.97	0.03	0.24	0.27	—	1,751	1,751	0.01	0.20	2.27	1,814

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	329	329	0.03	< 0.005	—	330
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	78.2	78.2	0.01	< 0.005	—	78.6
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	—	329	329	0.03	< 0.005	—	330
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	735	735	0.07	0.01	—	740
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	329	329	0.03	< 0.005	—	330
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	78.2	78.2	0.01	< 0.005	—	78.6
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	—	329	329	0.03	< 0.005	—	330
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	735	735	0.07	0.01	—	740

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	54.4	54.4	0.01	< 0.005	—	54.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	—	54.4	54.4	0.01	< 0.005	—	54.7
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	122	122	0.01	< 0.005	—	122

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	82.1	82.1	0.01	< 0.005	—	82.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	78.2	78.2	0.01	< 0.005	—	78.6
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	—	82.1	82.1	0.01	< 0.005	—	82.6

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	242	242	0.02	< 0.005	—	244
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	82.1	82.1	0.01	< 0.005	—	82.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	78.2	78.2	0.01	< 0.005	—	78.6
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	—	82.1	82.1	0.01	< 0.005	—	82.6
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	242	242	0.02	< 0.005	—	244
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6	< 0.005	< 0.005	—	13.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6	< 0.005	< 0.005	—	13.7

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	40.1	40.1	< 0.005	< 0.005	—	40.4

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	914	914	0.08	< 0.005	—	916
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	914	914	0.08	< 0.005	—	916
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.7	75.7	0.01	< 0.005	—	75.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.7	75.7	0.01	< 0.005	—	75.9
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	151	151	0.01	< 0.005	—	152

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrige rated Warehou se-Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	914	914	0.08	< 0.005	—	916
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrige rated Warehou se-No Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrige rated Warehou se-Rail	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	457	457	0.04	< 0.005	—	458
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	914	914	0.08	< 0.005	—	916
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.7	75.7	0.01	< 0.005	—	75.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.7	75.7	0.01	< 0.005	—	75.9
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	151	151	0.01	< 0.005	—	152

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.16	1.07	0.05	6.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Total	1.16	4.52	0.05	6.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	3.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.10	< 0.005	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.19	2.19	< 0.005	< 0.005	—	2.20
Total	0.10	0.73	< 0.005	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.19	2.19	< 0.005	< 0.005	—	2.20

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.16	1.07	0.05	6.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Total	1.16	4.52	0.05	6.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	3.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.10	< 0.005	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.19	2.19	< 0.005	< 0.005	—	2.20
Total	0.10	0.73	< 0.005	0.59	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.19	2.19	< 0.005	< 0.005	—	2.20

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	93.3	266	359	9.60	0.23	—	668
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	93.3	266	359	9.60	0.23	—	668
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	187	532	719	19.2	0.46	—	1,336
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	93.3	266	359	9.60	0.23	—	668
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	93.3	266	359	9.60	0.23	—	668

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	187	532	719	19.2	0.46	—	1,336
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	15.5	44.0	59.5	1.59	0.04	—	111
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	15.5	44.0	59.5	1.59	0.04	—	111
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	30.9	88.1	119	3.18	0.08	—	221

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	81.6	233	314	8.39	0.20	—	584
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Unrefrige Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	81.6	233	314	8.39	0.20	—	584
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	163	465	629	16.8	0.40	—	1,168
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	81.6	233	314	8.39	0.20	—	584
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	81.6	233	314	8.39	0.20	—	584
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	163	465	629	16.8	0.40	—	1,168
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	13.5	38.5	52.0	1.39	0.03	—	96.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	13.5	38.5	52.0	1.39	0.03	—	96.7

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	27.0	77.0	104	2.78	0.07	—	193

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	6.29	0.00	6.29	0.63	0.00	—	22.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	6.29	0.00	6.29	0.63	0.00	—	22.0
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.0

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	38.0	0.00	38.0	3.80	0.00	—	133
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	6.29	0.00	6.29	0.63	0.00	—	22.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	6.29	0.00	6.29	0.63	0.00	—	22.0
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.32	0.00	15.0	150	0.00	0.00	—	0.00	0.00	—	0.00	—	3,317	3,317	0.06	0.01	—	3,321
Off-Highway Trucks	0.34	0.28	1.65	1.89	0.01	0.06	—	0.06	0.06	—	0.06	—	817	817	0.03	0.01	—	819
Total	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.32	0.00	15.0	150	0.00	0.00	—	0.00	0.00	—	0.00	—	3,317	3,317	0.06	0.01	—	3,321
Off-Highway Trucks	0.34	0.28	1.65	1.89	0.01	0.06	—	0.06	0.06	—	0.06	—	817	817	0.03	0.01	—	819
Total	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.06	0.00	2.74	27.3	0.00	0.00	—	0.00	0.00	—	0.00	—	549	549	0.01	< 0.005	—	550
Off-Highway Trucks	0.06	0.05	0.30	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	135	135	0.01	< 0.005	—	136
Total	0.12	0.05	3.04	27.7	< 0.005	0.01	—	0.01	0.01	—	0.01	—	684	684	0.02	< 0.005	—	685

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.32	0.00	15.0	150	0.00	0.00	—	0.00	0.00	—	0.00	—	3,317	3,317	0.06	0.01	—	3,321
Off-Highway Trucks	0.34	0.28	1.65	1.89	0.01	0.06	—	0.06	0.06	—	0.06	—	817	817	0.03	0.01	—	819
Total	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.32	0.00	15.0	150	0.00	0.00	—	0.00	0.00	—	0.00	—	3,317	3,317	0.06	0.01	—	3,321

Off-High Trucks	0.34	0.28	1.65	1.89	0.01	0.06	—	0.06	0.06	—	0.06	—	817	817	0.03	0.01	—	819
Total	0.66	0.28	16.7	152	0.01	0.06	—	0.06	0.06	—	0.06	—	4,134	4,134	0.10	0.01	—	4,140
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.06	0.00	2.74	27.3	0.00	0.00	—	0.00	0.00	—	0.00	—	549	549	0.01	< 0.005	—	550
Off-Highway Trucks	0.06	0.05	0.30	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	135	135	0.01	< 0.005	—	136
Total	0.12	0.05	3.04	27.7	< 0.005	0.01	—	0.01	0.01	—	0.01	—	684	684	0.02	< 0.005	—	685

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Fire Pump	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Total	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generator	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Fire Pump	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Total	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.02	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.86	2.86	< 0.005	< 0.005	0.00	2.87
Fire Pump	0.01	0.01	0.02	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.86	2.86	< 0.005	< 0.005	0.00	2.87
Total	0.01	0.01	0.03	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.71	5.71	< 0.005	< 0.005	0.00	5.73

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Fire Pump	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Total	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergen Generator	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Fire Pump	0.14	0.12	0.34	0.45	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	63.0	63.0	< 0.005	< 0.005	0.00	63.2
Total	0.27	0.25	0.69	0.89	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	0.00	126	126	0.01	< 0.005	0.00	126
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.02	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.86	2.86	< 0.005	< 0.005	0.00	2.87
Fire Pump	0.01	0.01	0.02	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	2.86	2.86	< 0.005	< 0.005	0.00	2.87
Total	0.01	0.01	0.03	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	5.71	5.71	< 0.005	< 0.005	0.00	5.73

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	2/1/2025	5.00	23.0	—
Site Preparation	Site Preparation	1/1/2025	2/1/2025	5.00	23.0	—
Grading	Grading	2/2/2025	5/1/2025	5.00	64.0	—
Building Construction	Building Construction	5/2/2025	1/1/2026	5.00	175	—
Paving	Paving	12/1/2025	1/31/2026	5.00	45.0	—
Architectural Coating	Architectural Coating	12/1/2025	1/1/2026	5.00	24.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41

Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	16.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	4.00	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	62.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	24.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	16.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	12.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	16.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	4.00	10.2	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	62.0	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	24.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	16.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	4.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	12.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	4.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	67%	67%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	225,000	75,000	19,930

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	34.5	0.00	—
Grading	—	—	192	0.00	—
Paving	0.00	0.00	0.00	0.00	7.63

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	2.16	100%
Unrefrigerated Warehouse-Rail	0.00	0%

Other Non-Asphalt Surfaces	5.47	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	33,369	349	0.03	< 0.005
2026	2,781	346	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	186	186	186	67,890	4,009	4,009	4,009	1,463,407
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	71.0	71.0	71.0	25,915	2,840	2,840	2,840	1,036,600
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	179	179	179	65,174	3,849	3,849	3,849	1,404,871
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-Rail	71.0	71.0	71.0	25,915	2,840	2,840	2,840	1,036,600
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	225,000	75,000	19,930

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)

Unrefrigerated Warehouse-No Rail	346,403	346	0.0330	0.0040	1,425,801
Parking Lot	82,404	346	0.0330	0.0040	0.00
Unrefrigerated Warehouse-Rail	346,403	346	0.0330	0.0040	1,425,801
Other Non-Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	86,601	346	0.0330	0.0040	1,425,801
Parking Lot	82,404	346	0.0330	0.0040	0.00
Unrefrigerated Warehouse-Rail	86,601	346	0.0330	0.0040	1,425,801
Other Non-Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	48,714,789	0.00
Parking Lot	0.00	0.00
Unrefrigerated Warehouse-No Rail	48,714,789	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	42,601,083	0.00

Parking Lot	0.00	0.00
Unrefrigerated Warehouse-No Rail	42,601,083	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	70.5	—
Parking Lot	0.00	—
Unrefrigerated Warehouse-Rail	70.5	—
Other Non-Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	70.5	—
Parking Lot	0.00	—
Unrefrigerated Warehouse-Rail	70.5	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Forklifts	CNG	Average	17.0	8.00	82.0	0.20
Off-Highway Trucks	Diesel	Average	1.00	8.00	200	0.44

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Forklifts	CNG	Average	17.0	8.00	82.0	0.20
Off-Highway Trucks	Diesel	Average	1.00	8.00	200	0.44

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.50	50.0	150	0.73
Fire Pump	Diesel	1.00	0.50	50.0	150	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	33.6	annual days of extreme heat
Extreme Precipitation	4.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	22.7	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	97.1
AQ-PM	46.5
AQ-DPM	33.3
Drinking Water	36.2
Lead Risk Housing	3.47
Pesticides	9.59
Toxic Releases	30.1
Traffic	62.7
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	44.6
Cardio-vascular	79.7
Low Birth Weights	71.6
Socioeconomic Factor Indicators	—
Education	58.7
Housing	2.26
Linguistic	—
Poverty	44.2
Unemployment	65.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	53.94584884
Employed	18.74759399
Median HI	61.27293725
Education	—
Bachelor's or higher	29.93712306
High school enrollment	100
Preschool enrollment	9.29038881
Transportation	—
Auto Access	73.42486847
Active commuting	1.039394328
Social	—
2-parent households	68.54869755
Voting	50.18606442
Neighborhood	—
Alcohol availability	91.41537277
Park access	22.16091364
Retail density	7.930193764
Supermarket access	17.18208649
Tree canopy	1.437187219
Housing	—
Homeownership	78.81432054
Housing habitability	80.41832414
Low-inc homeowner severe housing cost burden	74.86205569
Low-inc renter severe housing cost burden	40.84434749
Uncrowded housing	81.14974978

Health Outcomes	—
Insured adults	54.27948159
Arthritis	86.8
Asthma ER Admissions	56.5
High Blood Pressure	89.6
Cancer (excluding skin)	85.3
Asthma	34.7
Coronary Heart Disease	90.3
Chronic Obstructive Pulmonary Disease	71.2
Diagnosed Diabetes	72.3
Life Expectancy at Birth	20.3
Cognitively Disabled	60.3
Physically Disabled	65.4
Heart Attack ER Admissions	33.6
Mental Health Not Good	38.2
Chronic Kidney Disease	79.8
Obesity	34.9
Pedestrian Injuries	74.7
Physical Health Not Good	52.6
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	12.7
Current Smoker	37.0
No Leisure Time for Physical Activity	54.9
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	35.2
Elderly	80.7
English Speaking	70.4
Foreign-born	22.2
Outdoor Workers	36.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	88.5
Traffic Density	69.0
Traffic Access	23.0
Other Indices	—
Hardship	53.9
Other Decision Support	—
2016 Voting	53.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	39.0
Healthy Places Index Score for Project Location (b)	42.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on applicant provided information.
Construction: Off-Road Equipment	Based on applicant provided information.
Construction: Trips and VMT	Based on applicant provided information.
Operations: Vehicle Data	Based on traffic impact analysis. Passenger vehicles and trucks are split by land use.
Operations: Fleet Mix	Based on TIA.
Operations: Water and Waste Water	Based on WSA for project.
Operations: Off-Road Equipment	Based on SCAQMD High-Cube Warehouse Business Survey.
Construction: Electricity	Based on electricity use during construction.

Appendix B
Biological Resources Technical Report

Biological Resources Technical Report

HCC 1 Lot 5 Project

JULY 2024

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Acronyms and Abbreviations

Acronym	Definition
amsl	above mean sea level
BSA	biological survey area
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FESA	Federal Endangered Species Act
GIS	geographic information system
HUC	Hydrologic Unit Code
MBTA	Migratory Bird Treaty Act
OHWM	ordinary high water mark
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program

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1 Introduction

This report documents the results of surveys conducted to identify potential biological resource constraints for the HCC 1 Lot 5 Project (Project) located in the City of Hesperia (City), San Bernardino County, California. Figure 1, Project Location, shows the regional location of the Project and the site vicinity. All figures are provided in Appendix A.

The purpose of this report is to (1) describe the conditions of biological resources within the Project site in terms of vegetation communities, plants, wildlife, wildlife habitats, and wetlands; (2) quantify potential direct and indirect impacts to special-status biological resources that would result from the Project; (3) discuss those impacts in terms of biological significance in view of federal, state, and local laws and policies (specifically, the County of San Bernardino General Plan and the City of Hesperia General Plan and Municipal Code); and (4) specify measures to avoid, minimize, and/or mitigate any significant impacts that would occur to special-status biological resources as a result of Project implementation.

1.1 Project Description

1.1.1 Project Location

The approximately 12.14-acre Project, including the 11.01-acre Project site and 1.13-acre off-site improvement area, is located in the City of Hesperia, which is located in San Bernardino County (Figure 1). The Project site is generally bounded to the north by vacant land, to the south by San Bernardino County Fire Station 305 and vacant land, to the east by U.S. Highway 395, and to the west by Caliente Road and Building 1 of the Hesperia Commerce Center now occupied by Modway furniture wholesaler. The Project site is identified by Assessor's Parcel Number 303-935-108. Specifically, the Project is located in Section 28, Township 4 North, and Range 5 West, as depicted on the U.S. Geological Survey Baldy Mesa, California 7.5-minute topographic quadrangle map.

1.1.2 Project Components

The Project would include the construction of an industrial warehouse building and associated improvements on 11.01 acres of land. The proposed Project would provide 150,000 square feet of industrial/warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, and landscape area (Figure 2, Site Plan).

The Project would include off-site improvements along Caliente Road including frontage landscaping. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

To account for the maximum potential disturbance associated with all on-site and off-site improvements, a maximum disturbance footprint has been developed. Areas in which lateral utility connections may occur or where other roadway and pedestrian improvements may be necessary are also depicted. Together, these off-site improvements are referred to as the "off-site street and utility improvements."

1.1.2.1 Site Access, Circulation, and Parking

Access to the Project site would be provided by one driveway:

- Caliente Road West Driveway – 50 feet wide, full access (passenger cars and trucks) driveway with stop sign

Consistent with Hesperia Fire Department access requirements, all Project driveways have been designed to allow for minimum turning radii. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. All gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas.

Paved passenger vehicle parking areas would be provided within areas west and south of the building, while tractor-trailer stalls and loading docks would be located east of the building. In total, the Project would provide approximately 38 loading dock positions, approximately 76 tractor-trailer stalls, and approximately 112 passenger vehicle parking spaces (including accessible).

1.1.2.2 Off-Site Improvements

The Project would include off-site improvements that include street improvements along the frontage of the Project on Caliente Road.

1.1.2.3 Utility Improvements

Given the vacant, undeveloped nature of the Project site, both wet and dry utilities, including domestic water, sanitary sewer, and electricity, would need to be extended onto the Project site. These utilities are described in detail below.

Domestic Water

Domestic water service would be provided by the Hesperia Water District Company. Within the immediate vicinity of the Project site, existing water lines include water lines within Caliente Road.

Sanitary Sewer

Sanitary sewer service would be provided by the Hesperia Water District. Within the immediate vicinity of the Project site, existing sewer lines include a gravity line starting east of U.S. Highway 395 in line with Caliente Road (to the west of the Project site).

Storm Drainage

A new engineered stormwater drainage system would be constructed on the east side of the Project site to collect and treat on-site stormwater (Figure 2). After development, stormwater flows would be captured on site and treated within an underground infiltration facility. Stormwater flows would be conveyed via sheet flows away from buildings and, where possible, through below-grade, landscaped areas prior to entering the underground chamber. The landscaped areas would act as the first filter for detaining suspended solids in stormwater flows.

The Project and its new stormwater drainage system would capture and attenuate stormwater consistent with City and San Bernardino County stormwater requirements, including requirements in the San Bernardino County Hydrology

Manual and Mojave Watershed Technical Guidance. In addition, it would attenuate flows beyond what is required. Specifically, the Project's stormwater system has been designed such that it would retain and infiltrate the entire volume generated from a 100-year storm event, and no stormwater runoff would be released off site during this event.

Gas, Electric, and Telecommunication Facilities

Upgrades would be required with respect to electric power, natural gas, and telecommunication facilities (i.e., cable television services). These utilities would be part of a dry utility package that would be installed on site from their locations immediately fronting the Project site to provide service to the Project.

Landscaping and Lighting Improvements

Landscaping is proposed for the passenger vehicle parking areas and around the portions of the building visible from off-site areas, as well as along the site's frontages with Caliente Road. Landscaping along the site's frontages would include a mixture of trees, shrubs, and ground cover. Proposed trees include 24-inch box Chilean mesquite (*Prosopis chilensis*), desert willow (*Chilopsis linearis*), afghan pine (*Pinus eldarica*), Chinese elm (*Ulmus parvifolia*), and Chinese Pistache (*Pistacia chinensis*) and 36-inch box blue palo verde (*Cercidium 'Desert Museum'*).

The landscaping materials along the Project frontages would incorporate a layering concept to provide different height trees and border or accent shrubs and low ground cover. Plant material would be selected for low water and low maintenance. Landscaping is designed to be consistent with Section 16.20.610 of the City's Municipal Code.

Project lighting would feature a mix of pole-mounted and wall-mounted lighting fixtures. Consistent with Section 16.16.415 of the City's Municipal Code, exterior lighting would be located and designed to avoid direct glare onto adjacent properties and public rights-of-way.

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2 Regulatory Setting

2.1 Federal

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to "take" any listed species; "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the intentional and unintentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Currently, the Migratory Birds office considers nests that support eggs, nestlings, or juveniles to be active. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

2.1.3 Clean Water Act

The Clean Water Act (CWA) is the major federal legislation governing water quality, providing guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires an applicant for a federal license or permit that may result in a discharge of pollutants into waters of the United States to obtain state certification, thereby ensuring that the discharge would comply with provisions of the CWA. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) administer the 401 certification program in California. Section 402 of the CWA establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found in 33 Code of Federal Regulations (CFR) Parts 320 to 332. Guidelines for implementation are

referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic ecosystem only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

The definition of "waters of the United States" establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define waters of the United States, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "waters of the United States" (provided in 33 CFR Section 328.3[a]) has changed multiple times over the past few decades starting with the *United States v. Riverside Bayview Homes Inc*. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al v. United States Environmental Protection Agency* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. On December 30, 2022, the agencies announced the final Revised Definition of "Waters of the United States" rule (Rule) (88 CFR 3004–3144). The Rule was published in the Federal Register on January 18, 2023, and became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the CWA for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule represents a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule. The Rule also considers various subsequent court decisions including two notable Supreme Court decisions.

There are two key changes that the Rule incorporates. Firstly, the Rule reinstates the "Significant Nexus" test. The "Significant Nexus" test refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372-69450). The "Significant Nexus" test attempts to establish a scientific connection between smaller water bodies (such as ephemeral or intermittent tributaries) and larger, more traditional navigable waters (such as rivers). Significant nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and the frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. Second, the Rule adopts the "Relatively Permanent Standard" test. To meet the "Relatively Permanent Standard," water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

On May 25, 2023, the Supreme Court issued its long-anticipated decision in *Sackett v. U.S. Environmental Protection Agency*, in which it rejected the U.S. Environmental Protection Agency's claim that "waters of the United States," as defined in the CWA, include wetlands with an ecologically significant nexus to traditional navigable waters. The Supreme Court held that only those wetlands with a continuous surface water connection to traditional navigable waterways would be afforded federal protection under the CWA. Specifically, to assert jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water(s) of the United States (i.e., a relatively permanent body of water connected to traditional interstate navigable waters) and (2) the wetland has a continuous surface connection with that water, making it

difficult to determine where the water ends and the wetland begins. The Rule will need to be modified by the Biden administration in light of this decision.

The term "wetlands" (a subset of waters of the United States) is defined in 33 CFR, Section 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

2.2 State

2.2.1 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code, Section 2050–2068) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, under CESA state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

On October 21, 2019, the California Fish and Game Commission (Commission) received a petition from the Center for Biological Diversity to list western Joshua tree (*Yucca brevifolia*).[1] On November 1, 2019, the Commission referred the petition to CDFW for evaluation. CDFW evaluated the scientific information presented in the petition and other relevant information possessed by CDFW at the time of review and prepared a report for submittal to the Commission (CDFW 2020). The report states that CDFW recommended that the Commission accept the petition for further consideration of western Joshua tree under the CESA. On September 22, 2020, the Commission accepted the candidacy proposal for western Joshua tree, effective October 9, 2020. When a plant or wildlife species is granted candidacy under the CESA, the species is given the same protection as a threatened or endangered species while the Commission evaluates whether formal listing as threatened or endangered under the CESA is warranted.

In listing western Joshua tree as a candidate species under CESA, the Commission directed CDFW staff to evaluate whether the species should be formally listed under CESA. In March 2022, CDFW staff presented its findings to the Commission and recommended against the listing, citing the species widespread distribution and lack of data regarding the extent to which climate changes are expected to affect the species. This information

[1] On October 21, 2019, the California Fish and Game Commission received a petition to list the following as threatened under the CESA: (1) western Joshua tree (*Yucca brevifolia*) throughout its California range, or, in the event the Commission determines that listing of western Joshua tree throughout its California range is not warranted, then (2) the western Joshua tree population within the northern part of western Joshua tree's California range, or (3) the western Joshua tree population within the southern part of western Joshua tree's California range.

was presented to the Commission on June 15–16, 2022. The Commission voted on the proposed listing at this meeting, but the vote resulted in a 2–2 tie. The Commission discussed western Joshua tree's listing status at its October 12–13, 2022 meeting; however, it was decided at this meeting to extend Joshua tree's candidate status discussion until their February 23, 2023, meeting, which was anticipated to be the final meeting before a listing decision was made. On July 1, 2023, the Western Joshua Tree Conservation Act was passed. While western Joshua tree is a candidate species, take for western Joshua tree can be received through payment of pre-determined mitigation fees.

2.2.2 California Fish and Game Code

2.2.2.1 Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protections for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

2.2.2.2 Section 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream, or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high water mark (OHWM) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code, Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete certified California Environmental Quality Act (CEQA) document.

2.2.2.3 California Native Plant Protection Act

The Native Plant Protection Act of 1977 (see Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act

remains part of the California Fish and Game Code. To align with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.

2.2.2.4 Nesting Birds

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

2.2.3 California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. The act also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under the FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including for example the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as California Rare Plant Rank (CRPR) 1 and 2 by the California Native Plant Society (CNPS), and potentially some CRPR 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

2.2.4 Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Act, the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code, Section 13260[a]). The State

Water Resources Control Board defines a waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). As of April 2019, the State Water Resources Control Board has narrowed their definition of a waters of the state to include the following:

1. Natural wetlands
2. Wetlands created by modification of a surface water of the state
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration
    b. Specifically identified in a water quality control plan as a wetland or other water of the state
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape
    d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining—even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the United States are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the United States are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

2.2.5 California Native Desert Plants Act

The purpose of the California Desert Native Plants Act (CDNPA) is to protect certain species of California desert native plants from unlawful harvesting on both public and privately owned lands. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. Within these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt, and the required tags and seals. The appropriate permits, tags, and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee. More information on the CDNPA, including the species protected under the law, is available by reading the provisions of the law.

2.3 Local

2.3.1 San Bernardino County General Plan and Development Code

The County of San Bernardino General Plan contains the goals and policies that guide future development within San Bernardino County (County of San Bernardino 2007a). San Bernardino County is broken into three distinct geographic planning regions: the Valley, the Mountains, and the Desert. The Project site occurs within the Desert Planning Region of San Bernardino County. The Desert Planning Region has two goals and policies: (1) to preserve open lands by working with Bureau of Land Management and (2) to ensure that off-highway vehicle use is managed to protect environmentally sensitive resources.

The Project would also need to comply with the Development Code. The San Bernardino Development Code (County of San Bernardino 2007b) implements the goals and policies of the General Plan. Chapter 88.01.060, Desert Native Plant Protection, of the San Bernardino County Development Code is a subset of the Plant Protection and Management Code (Chapter 88.01 of the Development Code) and focuses on the conservation of specified desert plant species.

2.3.2 City of Hesperia General Plan

The Conservation and Open Space Elements of the City of Hesperia General Plan (City of Hesperia 2010) contain goals and policies that address biological resources. The following goals and policies pertain to biological resources and are relevant to the Project (City of Hesperia 2010):

Goal CN-3. Minimize development and set aside necessary open space near and along the surface waters as well as those washes and other water passageways located in the City to preserve and protect plant and animal species and their natural habitat dependent on such surface waters and waterways.

Policy CN-3.1. Monitor the development impacts to these surface water resources within the city.

Policy CN 3.2. Preserve areas within the Oro Grande wash and un-named wash #1 that exhibit ideal native habitat in a natural state.

Goal CN 4. Establish policies and regulations to protect the natural environment and habitat of the City's biological resources.

Policy CN-4.1. Preserve pristine open space areas and known wildlife corridors areas for conservation to protect sensitive species and their habitats.

Policy CN-4.2. Encourage the protection, preservation and long-term viability of environmentally sensitive habitats and species in the City.

Policy CN-4.3. Identify lands that are suitable for preservation for sensitive species and their habitats.

Policy CN-4.4. In those areas known as possible habitat for endangered and sensitive species, require proper assessments before authorizing development.

Policy CN-4.5. Where such assessments indicate the presence of endangered or sensitive species, require appropriate actions to preserve the habitat and protect the identified species.

2.3.3 Hesperia Municipal Code, Chapter 16.24—Protected Plant Policy

Chapter 16.24 of the Hesperia Municipal Code contains the City's Protected Plant policies. This chapter establishes policies governing the removal of protected plants, including the following:

1. The following regulated desert native plants with stems two inches or greater in diameter or six feet or greater in height:
   a. *Psorothamnus spinosa* (smoketree);
   b. All species of the family *Agavaceae* (century plants, nolinas, yuccas);
   c. All species of the genus *Prosopis* (mesquites).
2. Creosote rings, ten feet or greater in diameter.
3. All Joshua trees (mature and immature).
4. All plants protected or regulated by the California Desert Native Plants Act.

Additionally, Section 16.24.060 of the Hesperia Municipal Code states the following:

> Prior to the issuance of a native tree or plant removal permit in conjunction with a development permit and/or approval of a land use application which authorizes such removal, a plot plan or grading plan shall be approved by the appropriate City review authority for each site indicating exactly which trees of plants are authorized to be removed. The required information can be added to any other required site plan. Prior to issuance of development permits in areas with native trees or plants that are subject to the provisions of this chapter, a preconstruction inspection shall be conducted by the appropriate authority. Such preconstruction inspections may be combined with any other required inspection.

2.3.3.1 Protected Plant Plan and Relocation/Adoption

Furthermore, the City's Protected Plants policy (City of Hesperia 2009) states the following for Tentative Tract, non-single-family residential developments (i.e., commercial, industrial, and apartment development):

- A protected plant plan shall be prepared by a certified arborist or registered botanist.
- An application and fee shall be completed and paid to the City.
- Healthy, transplantable plants shall be relocated on site or may be placed in an adoption program.

> To qualify as an approved adoption program, a developer shall provide a letter on company letterhead, describing the program and the community notification process. The program shall identify the following, as a minimum.
>
> A. A public notice process which may include publication in local newspapers, radio advertisement, hand distributed fliers, and other noticing techniques. Noticing must occur over a period of not less than three weeks.
> B. The location where the trees may be viewed by the public and a clearly identified period of at least two weeks (including weekends) when trees/plants are available for adoption.

C. The person that will be available on-site to assist those adopting trees to find the actual trees/plants for removal. An on-site or cell phone number for that person is required.

D. A note that a copy of the City Joshua Tree Transplanting Guidelines will be provided to each adopter.

E. A log showing the name, address, and phone number of each adopter and the number and type of trees/plants they received.

Note: At least 50% of the transplantable trees and plants shall be adopted or the remaining number below 50% shall be purchased at $350 per transplantable tree. Purchased trees must be recycled at Advance Disposal.

2.3.3.2 Findings for Removals

Per Hesperia Municipal Code Section 16.24.040, the reviewing authority must authorize the removal of a native tree or plant subject to the provisions of the Hesperia Municipal Code only if the following findings are made:

A. The removal of the native tree or plant does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats (flora and fauna), especially those with limited habitats (e.g., eagles).

B. The removal of the native tree or plant is justified for one of the following reasons:

1. The location of the native tree or plant and/or its drip line interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or ground disturbing activity. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements;
2. The location of the native tree or plant and/or its drip line interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property;
3. The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the director of transportation, flood control and airports or other county reviewing authority;
4. The native tree or plant or its presence interferes with or is causing excessive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements;
5. The condition or location of the native plant or tree is adjacent to and in such close proximity to existing or proposed structure that the native plant or tree has or will sustain significant damage.

C. Joshua trees that are proposed to be removed have been transplanted or stockpiled for future transplanting wherever possible. In the instance of stockpiling the permittee has posted a bond to insure such Joshua trees are transplanted appropriately.

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3 Methods

Data regarding biological resources present within the 18.46-acre biological study area (BSA), which includes the 11.01-acre Project site, 1.13-acre off-site improvement area, and a 100-foot buffer, was obtained through a review of pertinent literature, field reconnaissance, habitat assessments, and protocol/focused surveys, which are described in detail in this section. For purposes of this report, special-status resources are defined as follows:

- Special-status plant species include:
  - Species designated as either rare, threatened, or endangered by CDFW or USFWS and that are protected under either the CESA (California Fish and Game Code Section 2050 et seq.) or the FESA (16 USC 1531 et seq.)
  - Species that are candidate species being considered or proposed for listing under FESA or CESA
  - Species that are included on the CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2023a) with a CRPR of 1 or 2 (CNPS 2023a)
- Special-status wildlife species include:
  - Species designated as either rare, threatened, or endangered by CDFW or USFWS and that are protected under either the CESA (California Fish and Game Code Section 2050 et seq.) or the FESA (16 USC 1531 et seq.)
  - Species that are candidate species being considered or proposed for listing under FESA or CESA
  - Species that are included on the CDFW Special Animals List as endangered, threatened, fully protected, or Species of Special Concern (CDFW 2023b)
  - Species designated as a California Fish and Game Code Section 4000 fur-bearing animal
- Special-status vegetation communities are those designated as sensitive by CDFW

3.1 Literature Review

Prior to conducting a field assessment, Dudek biologists conducted a literature search and database review to evaluate the natural resources found or potentially occurring within the BSA. The database review included the most recent versions of the CNDDB and special-status species lists (CDFW 2023a, 2023b, 2023c), USFWS Information for Planning and Conservation database, and the CNPS Inventory (CNPS 2023a). These databases were reviewed to identify sensitive biological resources present or potentially present for the U.S. Geological Survey 7.5-minute quadrangle on which the BSA is located (Baldy Mesa) and the eight surrounding quadrangles (Shadow Mountains SE, Adelanto, Victorville, Hesperia, Cajon, Silverwood Lake, Phelan, and Telegraph Peak). The CDFW occurrence data and critical habitat databases were queried using geographic information system (GIS) software based on a 5-mile buffer around the BSA. Potential and/or historical drainages and aquatic features were investigated based on a review of U.S. Geological Survey topographic maps (1:24,000-scale), aerial photographs, the USFWS National Wetland Inventory database (USFWS 2023), the U.S. Geological Survey National Hydrography Dataset (USGS 2023), and the Natural Resource Conservation Service's Web Soil Survey (USDA 2023a).

3.2 Field Surveys

Dudek conducted the following biological surveys of the BSA between July and September 2023: vegetation mapping; western Joshua tree mapping; focused surveys for desert native plants, desert tortoise (*Gopherus agassizii*), and Crotch's bumble bee (*Bombus crotchii*); and a focused habitat assessment for Mohave ground squirrel (*Xerospermophilus mohavensis*).

Table 1 lists the dates, focus, scope, conditions, and personnel for each survey. Photos of the Project site can be found in Appendix B.

Table 1. Survey Conditions

Date(s)	Biologist	Type of Survey	Times	Weather Conditions
7/20/2023	E. Salas, B. Schultz	General Biological Resources Survey and Jurisdictional Delineation	7:10 a.m.–9:30 a.m.	79°F–86°F; 0% cloud cover; 1–5 mph wind
7/20/2023	E. Salas, B. Schultz	Crotch's Bumble Bee Survey	9:30 a.m.–10:40 a.m.	88°F–92°F; 0% cloud cover; 0–3 mph wind
7/14/2023	Dipodomys Ecological Consulting	Mohave Ground Squirrel Focused Habitat Assessment	N.R.	90°F–95°F; 5% cloud cover; 3–5 mph wind
8/4/2023	E. Salas	Crotch's Bumble Bee Survey	9:15 a.m.–10:35 a.m.	85°F–88°F; 0% cloud cover; 0–3 mph wind
8/10/2023	E. Salas	Desert Tortoise Protocol Survey	8:30 a.m.–11:40 a.m.	71°F–75°F; 0% cloud cover; 0–3 mph wind
8/18/2023	S. Greely	Crotch's Bumble Bee Survey	10:19 a.m.–12:27 p.m.	90°F–91°F; 0% cloud cover; 3–8 mph wind
9/7/2023	E. Salas	Desert Native Plant Survey	9:20 a.m.–12:15 p.m.	76–81°F; 0% cloud cover; 1–5 mph wind
8/3/2023	A. Castro	Western Joshua Tree Survey	6:00 a.m.–10:00 a.m.	N.R.
10/18/22	A. Castro	Western Joshua Tree Survey	12:00 p.m.–4:00 p.m.	N.R.

Notes: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour; N.R. = Not Recorded.

3.2.1 Vegetation Community and Land Cover Mapping

Vegetation communities and land uses within the BSA were mapped in the field using Esri ArcGIS mobile application. Following completion of the fieldwork, all vegetation linework was finalized using ArcGIS and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the BSA was determined. Vegetation community classifications used in this report follow A Manual of California Vegetation, online edition (CNPS 2023b), and California Natural Community List (CDFW 2023b), where feasible, with modifications made to accommodate the lack of conformity of the observed communities (e.g., developed/disturbed land uses) using Oberbauer et al. (2008). Vegetation communities were classified based on site factors, descriptions, distribution, and characteristic species present within an area. Each natural community was mapped to the association level, where feasible.

These classification systems focus on a quantified, hierarchical approach that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed (as opposed to predicting climax or successional stages).

Vegetation mapping was conducted on foot to visually cover 100% of the BSA. Minimum mapping units were established to standardize the scale and appropriate evaluation of stands, as recommended by CDFW (2020b). Mapping standards call for a minimum mapping unit of not greater than 10 acres for upland natural communities not considered sensitive, but usually 1 acre, and 0.25 acres for sensitive vegetation communities and wetland or riparian vegetation communities. Visible disturbance factors were also noted during vegetation mapping.

3.2.2 Flora

Latin and common names for plant species with a CRPR follow the CNPS Rare Plant Inventory (CNPS 2023a). For plant species without a CRPR, Latin names follow the Jepson Online Interchange for California Floristics (Jepson Flora Project 2023), and common names follow the California Natural Community List (CDFW 2023d) or the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2023b).

3.2.3 Fauna

All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other signs were recorded. The site was visually scanned with and without binoculars to identify wildlife. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, American Ornithological Society (Chesser et al. 2023) for birds, Mammal Diversity Database (American Society of Mammalogists 2023) for mammals, North American Butterfly Association (NABA 2016) or San Diego Natural History Museum (SDNHM 2002) for butterflies, and Moyle (2002) for fish.

3.2.4 Special-Status and Regulated Resources

3.2.4.1 Special-Status Plant Survey

Based on the results of the literature review discussed in Section 3.1, one special-status plant species was determined to have a moderate or high potential to occur within the BSA based on known species distribution, species-specific habitat preferences, and habitat conditions on site: western Joshua tree (*Yucca brevifolia*). Therefore, a western Joshua tree focused survey was conducted and is further discussed in Section 3.2.4.2. Additionally, a desert native plant survey was conducted in accordance with the CDNPA and Chapter 16.24 of the Hesperia Municipal Code.

No other special-status plant species were found to have a moderate or high potential to occur (Appendix G), therefore no focused special-status plant survey was conducted for the BSA.

3.2.4.2 Western Joshua Tree Focused Survey

Per the City's Protected Plants policy (HMC 16.24) and the Western Joshua Tree Conservation Act, Dudek's International Society of Arboriculture (ISA)–certified arborists performed a Joshua tree survey to inventory and evaluate the health and relocation potential for each Joshua tree located on and within 50 feet of the Project site. During the inventory, the GPS position of each Joshua tree found on site was recorded. Dudek certified arborists

walked the entire site in parallel transects to ensure documentation of each western Joshua tree within the Project site and within 50 feet of the Project site.

Dudek collected the following attributes of each tree:

- Species
- Size class (Size A - < 1m, Size B - >1m and <5m, and Size C - >5m)
- Actual height (meters)
- Health (excellent, good, fair, poor, critical, and dead)[2]
- Live or dead
- Tree maturity (mature if branching occurs, not mature if no branching occurs)
- Flowering or fruiting stage (flowers or fruits present)
- If a tree had a severe bend in the trunk, height was recorded with two measurements, h1 and h2, h1 being the main, upright trunk, and h2 being the remaining, non-vertical trunk or branch. H1 and h2 were then added together to get an overall height and size class. If a tree was found leaning, the height was measured from the base of the tree along the leaning trunk to the top of the furthest leaf.
- All inventoried and assessed protected trees were tagged with an aluminum tag bearing a unique identification number, which was placed on the main trunk on the north side of each Joshua tree. Tagging on the north side allows for proper orientation during relocation (each relocated Joshua tree will need to be oriented in the same direction as it was in its original location). Photographs for each tree were taken in accordance with CDFW requirements for western Joshua tree photographs and included an object for frame of reference.

3.2.4.3 Desert Native Plant Survey

A desert native plant survey was conducted in accordance with the CDNPA and Chapter 16.24 of the Hesperia Municipal Code. Desert native plants were surveyed within the on-site portion of the BSA and western Joshua trees were surveyed within the Project site and a 50-foot buffer. The survey date, biologist, and weather conditions are included in Table 1. All of the desert native plant target species are conspicuous shrubs that would have been identifiable during the survey.

[2] **Health Rating Descriptions**
Excellent. Tree has excellent health and strong vigor. No damage. Flowering and fruiting expected. Typically, only given to large, high-quality specimens (taller than 15 feet in height). Transplanting generally not recommended due to size.
Good. Tree has good health and vigor. All branches are alive and healthy. Damage is very localized and minimal. Flowering and fruiting likely, if tree is large enough. Tree is transplantable.
Fair. Tree health is average. Some stressors or damage possible, but any damage is minimal to moderate (e.g., rodent grazing, insect damage). No dead/broken branches. Tree is transplantable.
Poor. Tree is under stress, and overall health is in decline, or tree has taken significant damage. Mortality likely unless stressors relieved and/or conditions change. Broken/dead limbs likely present. Tree is generally not transplantable.
Critical. Tree is in extreme decline. One or more branches dead. One or more branches dying. Physical damage likely present. Damage is significant and extensive. Mortality expected within 2 to 4 years. Tree is not transplantable.
Dead. Tree is dead.

In accordance with the Hesperia Municipal Code, Chapter 16.24, the following desert native plants were considered target species:

1. The following desert native plants with stems two inches or greater in diameter or six feet or greater in height:
   a. Psorothamnus spinosa (smoketree);
   b. All species of the family Agavaceae (century plants, nolina, yuccas);
   c. All species of the genus *Prosopis* (mesquites).
2. Creosote rings, ten feet or greater in diameter.
3. All Joshua trees (mature and immature).

In accordance with the CDNPA, Chapter 3, the following desert native plants were considered target species:

A. All species of the family *Agavaceae* (century plants, nolinas, yuccas).
B. All species of the family *Cactaceae* (cacti), except for the plants listed in subdivisions (b) and (c) of Section 80072 which may be harvested under a permit obtained pursuant to that section.
C. All species of the family *Fouquieriaceae* (ocotillo, candlewood).
D. All species of the genus *Prosopis* (mesquites).
E. All species of the genus *Cercidium* (palos verdes).
F. *Acacia greggii* (catclaw).
G. *Atriplex hymenelytra* (desert-holly).
H. *Psorothamnus spinosa* (smoke tree).
I. *Olneya tesota* (desert ironwood), including both dead and live desert ironwood.

3.2.4.4 Desert Tortoise Protocol-Level Survey

Dudek conducted protocol surveys for desert tortoise to determine the status of the species on site. To evaluate the impacts to desert tortoise, protocol surveys were conducted in accordance with the USFWS 2010 Pre-Project Field Survey Protocol for Potential Desert Tortoise, included in Preparing for any Action That May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*) (USFWS 2010). Following the protocol, Dudek conducted surveys within the on-site portion of the BSA in July 2023. Biologists surveyed the site by walking approximately 10-meter-wide transects for 100% coverage of the BSA. This 1-day survey was conducted on August 10, 2023.

3.2.4.5 Crotch's Bumble Bee Focused Survey

On June 6, 2023, CDFW released the Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. Due to the potential for Crotch's bumble bee to occur within the BSA, Dudek conducted a Crotch's bumble bee habitat assessment. This included a literature review of historical and current species occurrences; documentation of potential foraging, nesting, and/or overwintering resources; a floral survey documenting plant species in bloom and their percent cover; and other items described in Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW 2023e). Three evenly spaced focused surveys were conducted over the months of July and August 2023. Biologists surveyed the entire BSA while focusing on areas with suitable floral resources.

3.2.4.6 Mohave Ground Squirrel Habitat Assessment

Dipodomys Ecological Consulting biologists Karla Flores and Karl Fairchild conducted a habitat assessment within the Project site for Mohave ground squirrel in addition to a nine-quadrangle query of the CNDDB to determine the locations of historical occurrences of Mohave ground squirrel. The habitat assessment consisted of walking meandering transects while recording vegetation communities and noting the presence of burrows and suitable soil per the Mohave Ground Squirrel Survey Guidelines (CDFW 2010). This 1-day survey was conducted on July 14, 2023.

3.2.4.7 Aquatic Resources Delineation

Before conducting fieldwork for the aquatic resources delineation, Dudek reviewed aerial maps from the National Wetlands Inventory (USFWS 2023), the National Hydrography Database (USGS 2023), the Natural Resource Conservation Service (USDA 2023a), and historic aerials and topographic maps (Google Earth 2023; Historic Aerials Online 2023). Dudek biologists conducted an aquatic resources delineation on July 20, 2023. The survey dates, biologist, and weather conditions are included in Table 1. Survey datasheets and forms are included in the aquatic resources delineation report provided in Appendix D. The surveys were conducted on foot to visually cover 100% of the BSA.

Dudek conducted a delineation of state and federal jurisdictional waters and wetlands within the BSA in accordance with current policies. Federal wetlands were mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters were mapped at the OHWM based on the procedures defined in USACE's 2008 A Field Guide to Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b). Waters of the state were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under California Fish and Game Code Section 1602.

To aid in the delineation and in conformance with the USACE 2008 Field Guide, OHWM datasheets (T-1) were recorded at potential non-wetland waters within the BSA to determine the OHWM indicators within those features. OHWM datasheets are included in Appendix D. The jurisdictional delineation did not contain any features that met the State Water Resources Control Board wetland criteria, and due to the lack of hydrophytic vegetation and hydric soils, wetland determination data forms were not completed.

The limits of aquatic resources were collected in the field using a Trimble GeoXT GPS unit or Esri Collector mobile application with submeter accuracy. The geographic extents were digitized based on the GPS data and data collected directly onto field maps into a Project-specific GIS using ArcGIS software.

3.2.5 Survey Limitations

Limitations of the surveys include a diurnal bias and the absence of trapping for reptiles, amphibians, and small mammals at night. The surveys were conducted during the daytime to maximize the detection of most wildlife. Most birds are active in the daytime, so diurnal surveys maximize the number of bird observations. Conversely, diurnal surveys usually result in few observations of mammals, many of which may only be active at night. In addition, many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects.

The average rainfall in 2023 was above average, so flora was expected to be at or above the typical abundance. Surveys for special-status plant species adequately covered flora that are known to bloom within the vicinity.

4 Environmental Setting

The purpose of this section is to describe the general existing conditions within and adjacent to the BSA to document the baseline conditions for this report and subsequent analysis.

4.1 Climate

The BSA is located in the Victor Valley/High Desert region in western San Bernardino County. Average annual temperatures range from 44°F to 78°F. The average annual precipitation is 5.52 inches (WRCC 2023). Periods of extended drought are common throughout the region.

4.2 Geology and Topography

The BSA is composed of a vacant site along the western side of U.S. Highway 395, east of Caliente Road and south of Joshua Street. The BSA's surface elevation ranges between approximately 3,700 and 3,720 feet above mean sea level (amsl). The BSA and immediate surrounding area are relatively flat with a slight downward slope from the south to the north. The BSA is located 8 miles north of Cleghorn Mountain, which occurs above Cajon Pass, which divides the San Gabriel Mountains from the San Bernardino Mountains.

4.3 Soils

According to the U.S. Department of Agriculture Natural Resource Conservation Service's Web Soil Survey (USDA 2023a), the BSA occurs within the San Bernardino County, Mojave River Area (CA671). The BSA consists of one soil type: Hesperia loamy fine sand (2% to 5% slopes). This soil type is described in more detail below and presented on Figure 3, USDA Soils.

Hesperia Series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils form on alluvial fans, valley plains, and stream terraces at elevations from 200 to 4,800 feet amsl. These non-hydric soils have negligible to low runoff and moderately rapid permeability. Creosote bush and sparse annuals are common vegetation found on these soils.

4.4 Surrounding Land Uses

The BSA is currently vacant undeveloped property bound to the west by a Modway warehouse, to the east by U.S. Highway 395, to the north by undeveloped land and a park-and-ride lot, and to the south by San Bernardino County Fire Station 305.

Land uses surrounding the BSA primarily consist of vacant land, along with some scattered residential and commercial and motor vehicular uses. Interstate 15 occurs just east of Highway 395. Oak Hills High school is 1.25 miles southeast of the Project site.

4.5 Watersheds and Hydrology

The BSA is within the Mojave Subbasin Hydrologic Unit Code (HUC) 8 (18090208), Bell Mountain Wash-Mojave River HUC 10 (1809020807), and Oro Grande Wash HUC 12 (180902080704) watersheds (Figure 4, Hydrologic Setting). The Mojave Subbasin HUC 8 watershed is approximately 4,618 square miles and consists of several waterbodies, waterways, dry washes, and valleys (UCD SIG 2021). The Mojave River is approximately 9.2 miles east. The Oro Grande Wash is a tributary to the Mojave River and is approximately 0.5 miles west of the BSA, and the California Aqueduct is 2.5 miles northeast (USGS 2023).

5 Results

This section describes the results of the literature review, field surveys, and habitat assessments within the BSA.

5.1 Vegetation Communities and Land Covers

Four vegetation communities or land cover types were mapped within the BSA. The spatial distribution of the vegetation communities and land covers are presented on Figure 5, Biological Resources. The acreages of the mapped vegetation alliances/associations and other land covers in the BSA are presented in Table 2.

State rankings of 1, 2, or 3 are considered high priority for inventory or special-status and impacts to these communities typically require mitigation (CDFW 2023d).

Table 2. Vegetation Communities and Land Cover Types within the BSA

Vegetation Community/ Land Cover	Alliance	Association	State Ranking[1]	Project Site (Acres)	Off-Site Area (Acres)	100-Foot Buffer (Acres)	Total (Acres)
Vegetation Communities							
Buckhorn Cholla/ Big Galleta Grass Scrub	*Cylindropuntia acanthocarpa/ Pleuraphis rigida* Shrubland	*Ericameria cooperi* disturbance	S4	2.74	0	0.90	3.65
Rubber Rabbitbrush Scrub	*Ericameria nauseosa* Shrubland	*Ericameria nauseosa*	S5	1.44	0.34	0.15	1.93
Non-Native Grassland	*Avena* spp.–*Bromus* spp. herbaceous semi-natural alliance	Wild oats and annual brome grasslands	SNR	6.83	0.39	2.24	9.46
Land Covers							
Urban/ Developed	N/A	N/A	N/A	0	0.40	3.02	3.42
			Total[2]	**11.01**	**1.13**	**6.31**	**18.46**

Sources: Sawyer et al. 2009; Oberbauer et al. 2008.

Notes:

[1] The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2022):
1 = critically imperiled
2 = imperiled
3 = vulnerable to extirpation or extinction
4 = apparently secure
5 = demonstrably widespread, abundant, and secure
NA = not applicable
GNR = unranked, global rank not yet assessed
SNR = unranked, subnational rank not yet assessed

[2] Totals may not sum due to rounding.
N/A = Not Applicable

5.1.1 Buckhorn Cholla/Big Galleta Grass Scrub

Buckhorn cholla/big galleta grass or *Cylindropuntia acanthocarpa/Pleuraphis rigida* shrubland alliance is recognized by the Natural Communities List, and the communities include rayless goldenhead (*Acamptopappus sphaerocephalus*), buckhorn cholla (*Cylindropuntia acanthocarpa*), Cooper's goldenbush (*Ericameria cooperi*), and/or big galleta grass (*Pleuraphis rigida*) as the dominant or codominant species in the shrub canopy with a open to intermittent herbaceous layer (CNPS 2023b). Buckhorn cholla/big galleta grass scrub has an open to intermittent shrub canopy of less than 2 meters (6.5 feet) in height (Sawyer et al. 2009).

Within the BSA, this community is mapped along the northern and southern portions of the BSA and primarily comprises the *Ericameria cooperi* disturbed association. Other species occurring within the community include rubber rabbitbrush (*Ericameria nauseosa* var. *hololeuca*), California four o'clock (*Mirabilis laevis* var. *crassifolia*), California buckwheat (*Eriogonum fasciculatum* var. *polifolium*), and a native bunch grass (*Stipa* sp.). This community is classified as non-sensitive and therefore not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023d).

5.1.2 Rubber Rabbitbrush Scrub

Rubber rabbitbrush scrub or *Ericameria nauseosa* shrubland alliance is recognized by the Natural Communities List and the communities include rubber rabbitbrush (*Ericameria nauseosa*) as the dominant or codominant species in the shrub canopy with a sparse or grassy herbaceous layer (CNPS 2023b). Rubber rabbitbrush scrub has an open to continuous shrub canopy of less than 3 meters (9 feet) in height (Sawyer et al. 2009). This alliance consists of at least 2% absolute cover of rubber rabbitbrush or more than 25% relative cover in the shrub canopy (Sawyer et al. 2009). The rubber rabbitbrush scrub occurs in disturbed settings on well-drained sands and gravels (Sawyer et al. 2009).

This community is found along the western portion and southern portion. Other species occurring within this community included cheatgrass (*Bromus tectorum*), flatspine bur ragweed (*Ambrosia acanthicarpa*), short-pod mustard (*Hirschfeldia incana*), and compact brome (*Bromus madritensis*). The rubber rabbitbrush association is ranked as S5 and therefore is not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023d).

5.1.3 Urban/Developed Land

Although not recognized by the Natural Communities List (CDFW 2023d), urban/developed land represents areas that have been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, homes, parking lots, pavement or hardscape, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover type is unvegetated or supports a variety of ornamental plants and landscaping.

Within the BSA this land cover is composed of Caliente Road and the developed fire station south of the Project site. Urban/Developed is not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023d).

5.1.4 Non-Native Grassland

Non-native grassland, or *Avena* spp.–*Bromus* spp. herbaceous semi-natural alliance, is recognized by the Natural Communities List, and the community includes wild oats (*Avena* spp.) and annual brome (*Bromus* spp.) as the dominant or co-dominant species, along with other non-natives in the herbaceous layer (CNPS 2023b). Non-native

grassland has an open to continuous herbaceous cover of less than 1.2 meters (4 feet) in height (CNPS 2023b). Non-native grassland occurs in foothills, waste places, rangelands, and openings in woodlands (CNPS 2023b).

Non-native grassland is the largest community found within the BSA and occurs throughout the site. It is co-dominated by a mix of non-native grasses, including ripgut brome (*Bromus diandrus*), red brome, (*Bromus rubens*) soft brome (*Bromus hordeaceus*), cheatgrass, and common Mediterranean grass (*Schismus barbatus*), with a low cover of redstem stork's bill (*Erodium cicutarium*).

Non-native grassland is not considered a sensitive biological resource by CDFW under CEQA (CDFW 2023d).

5.2 Plants and Wildlife Observed

5.2.1 Plants

A total of 28 species of native and naturalized plants, 19 native (68%) and 9 non-native (32%), were found within the BSA. A full list of species can be found in Appendix E, Plant Compendium. Special-status plants that were observed within the BSA are listed in Section 5.3.1.

5.2.2 Wildlife

A total of 13 wildlife species, 11 native and 2 non-native, were recorded within the BSA during surveys. Birds detected on the site included red tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), western kingbird (*Tyrannus verticalis*), house finch (*Haemorhous mexicanus*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), northern mockingbird (*Mimus polyglottos*), and loggerhead shrike (*Lanius ludovicianus*). Mammals detected included desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Otospermophilus beecheyi*). Reptiles included common side-blotched lizard (*Uta stansburiana*) and red diamond rattlesnake (*Crotalus ruber*). A full list of wildlife species can be found in Appendix F, Wildlife Compendium. Special-status wildlife species that were observed within the BSA are listed in Section 5.3.2.

5.3 Special-Status and Regulated Resources

Appendix G and Appendix H provide tables of all special-status species whose geographic ranges fall within the general BSA vicinity. Special-status species' potential to occur within the BSA were evaluated based on known species distribution, species-specific habitat preferences, and Dudek biologists' knowledge of regional biological resources. Species potentially occurring within the BSA are identified as having moderate or high potential to occur based on habitat conditions on site, and species for which there is little or no suitable habitat are identified as not expected to occur or having low potential to occur.

5.3.1 Special-Status Plants

Special-status plants include those listed, or candidates for listing, as threatened or endangered by USFWS and CDFW and species identified with CRPR rank of 1 or 2 by CDFW.

Dudek biologists performed an extensive desktop review of literature, existing documentation, and GIS data to evaluate the potential for special-status plant species to occur within the BSA. Each special-status plant species was assigned a rating of "not expected," "low," "moderate," or "high" potential to occur based on relative location to known

occurrences, vegetation community, soil, and elevation, the results of which are listed in Appendix G. According to results of this literature review and database searches, 28 special-status species were identified as potentially occurring within the BSA. No special-status plant species were determined to have a moderate or high potential to occur and no listed species were found to have a low potential to occur, except for the western Joshua trees observed within the BSA. These determinations were based on soils; vegetation communities (habitat) present; elevation range; and previous known locations based on the CNDDB, USFWS Information for Planning and Conservation database, and CNPS Inventory.

One special-status plant species, western Joshua tree, was observed within the BSA. Western Joshua tree is further discussed in Section 5.3.1.1; it is a state candidate for listing. No other listed species or non-listed CRPR 1 or CRPR 2 plants were observed. Due to the lack of moderate or high potential for special-status species occurring within the BSA, no focused surveys were conducted. In addition, there is no USFWS-designated critical habitat for listed plant species overlapping the BSA (USFWS 2022).

Details of the western Joshua tree are below in Table 3.

Table 3. Special-Status Plant Species Observed or with Moderate or High Potential to Occur within the BSA

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	Potential to Occur
Yucca brevifolia	western Joshua tree	None/SC/None	Great Basin grassland, Great Basin scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland, Sonoran desert scrub, Valley and foothill grassland/ perennial leaf succulent/Apr–May/ 1,310–6,560	Present. This species was observed within the BSA.

Status Designations
SC: State listed candidate species
Notes: CRPR = California Rare Plant Rank; BSA = biological survey area.

5.3.1.1 Western Joshua Tree

Western Joshua tree is a California state candidate for listing. Western Joshua tree is a monocot tree in the asparagus family (*Agavaceae*) that occurs within Joshua tree woodland, Great Basin grassland and scrub, Mojavean desert scrub, pinyon and juniper woodland, Sonoran desert scrub, and valley and foothill grassland. This species occurs in San Bernardino County and other southern and eastern counties in California between 1,310 and 6,560 feet amsl (CNPS 2023b). This species typically blooms between April and May, but is a conspicuous tree and identifiable at any time of year.

A total of 35 western Joshua tree individuals were recorded within the BSA, and all were found within the proposed Project site plan. No western Joshua tree individuals were found adjacent (within 50 feet) to the limits of the proposed Project site plan. Trees in the tree survey area vary in size and stature according to age and location. Further details are provided in Appendix I.

5.3.1.2 Desert Native Plants

In addition to western Joshua trees, one desert native plant species was observed within the BSA during the focused desert native plant survey: Wiggins' cholla (*Cylindropuntia echinocarpa*) (Figure 5).

5.3.2 Special-Status Wildlife

Special-status wildlife include those listed, or candidates for listing, as threatened or endangered by USFWS and CDFW and those designated as Species of Special Concern by CDFW and as sensitive by USFWS.

Similar to special-status plants, Dudek biologists performed an extensive desktop review of literature, existing documentation, and GIS data to evaluate the potential for special-status wildlife species to occur within the BSA. Each special-status wildlife species was assigned a rating of "not expected," "low," "moderate," or "high" potential to occur based on relative location to known occurrences and vegetation community/habitat association, the results of which are listed in Appendix H. Listed species with any potential to occur and non-listed special-status species with a moderate or higher potential to occur are discussed herein. Those special-status wildlife species that are not expected or have low potential to occur in the BSA are also included in Appendix H; however, these species are not discussed further as no significant direct or indirect impacts are expected.

One special-status wildlife species, loggerhead shrike, was observed within the BSA. Based on the results of the literature review and database searches, no other special-status wildlife species had a moderate or high potential to occur. No other listed species have a low potential to occur. The details of this species are presented below in Table 4.

Suitable habitat for Mohave ground squirrel was not detected during the habitat assessment. Additionally, the Mojave desert tortoise protocol survey was negative. Therefore, these species are not expected to occur and will not be analyzed further. Focused surveys for Crotch's bumble bee were negative and has historically been rare within the high desert; this species is further analyzed below. No focused surveys for burrowing owl (*Athene cunicularia*) were conducted due to the lack of suitable burrows (i.e., burrows or features with openings 4 inches or greater in diameter) detected during the biological reconnaissance survey and the desert tortoise survey. However, burrowing owl is a transient species and may still incidentally occur within the BSA. As such, it will be analyzed further. In addition, there is no USFWS-designated critical habitat for listed wildlife species overlapping the BSA (USFWS 2022).

Table 4. Special-Status Wildlife Species Observed or with Moderate or High Potential to Occur within the BSA

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Lanius ludovicianus (nesting)	loggerhead shrike	BCC/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	Present. The loggerhead shrike was observed during the Crotch's bumble bee and desert tortoise surveys.

Status Designations:
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern

Loggerhead Shrike

The loggerhead shrike is a USFWS Bird of Conservation Concern and a California Species of Special Concern. It is widespread throughout the United States, Mexico, and portions of Canada (Humple 2008). The species is a yearlong resident in most of the United States, including from California east to Virginia and south to Florida, as well as in Mexico. In California, while shrikes are widespread at the lower elevations in the state, the largest breeding populations are located in portions of the Central Valley, the Coast Ranges, and the southeastern deserts (Humple 2008).

Preferred habitats for loggerhead shrikes are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or human-made structures (such as the top of chain-link fences or barbed wire) that provide a location to impale prey items for storage or manipulation (Humple 2008). Loggerhead shrikes occur most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open canopied woodlands, although they can be quite common in agricultural and grazing areas and can sometimes be found in mowed roadsides, cemeteries, and golf courses. Loggerhead shrikes occur only rarely in heavily urbanized areas. For nesting, the height of shrubs and presence of canopy cover are most important (Yosef 1996).

Loggerhead shrike was observed during biological surveys.

Burrowing Owl

Burrowing owl is a USFWS Bird of Conservation Concern and a California Species of Special Concern. With a relatively wide-ranging distribution throughout the west, burrowing owls are considered to be habitat generalists (Lantz et al. 2004). In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). Preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils (Haug et al. 1993).

The presence of burrows is the most essential component of burrowing owl habitat as they are required for nesting, roosting, cover, and caching prey (Coulombe 1971; Martin 1973; Green and Anthony 1989; Haug et al. 1993). In California, western burrowing owls most commonly live in burrows created by California ground squirrels (*Spermophilus beecheyi*). Burrowing owls may occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open and sparse), usable

burrows are available, and foraging habitat occurs in close proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can be used for nesting and roosting.

Although the BSA contains flat semi-open scrub that may support this species, no suitable burrows for burrowing owl or other sign of burrowing owls were observed during the biological reconnaissance or desert tortoise surveys. Therefore, no focused burrowing owl protocol surveys were conducted.

Mohave Ground Squirrel

Mohave ground squirrel is a state-listed threatened species. This species' distribution range is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo Counties (Zeiner et al. 1990). Mohave ground squirrels generally inhabit areas where the soil is friable and sandy or gravelly. Mohave ground squirrels occur in desert scrub habitats dominated by creosote bush and desert saltbush scrub at elevations between 1,800 and 5,000 feet amsl.

Suitable habitat was not detected during the 2023 Mohave ground squirrel habitat assessment conducted by Dipodomys Ecological Consulting LLC. Although the BSA contained some low-quality habitat, the report determined colonization from Mojave ground squirrel population unlikely given multiple negative surveys in the area in addition to the California Aqueduct functioning as a significant barrier to Mohave ground squirrel dispersal. The Mohave ground squirrel habitat assessment results are detailed in Appendix C.

Mojave Desert Tortoise

Desert tortoise is a federally and state-listed threatened species. The range of the Mohave population of the desert tortoise includes portions of the Mojave Desert and the Colorado Desert in Southern California (parts of Inyo, Kern, Los Angeles, San Bernardino, and Riverside Counties), southern Nevada (Clark, Esmeralda, Nye, and Lincoln Counties), northwestern Arizona (Mohave County), and southwestern Utah (Washington County).

The typical habitat for the desert tortoise in the Mojave Desert is creosote bush scrub where precipitation ranges from 2 to 8 inches, with relatively high diversity of perennial plants and high productivity of ephemeral plants. Throughout most of the Mojave Desert, desert tortoises occur most commonly on gently sloping terrain with sandy gravel soils and where there is sparse cover of low-growing shrubs, which allows for the establishment of herbaceous plants. Soils must be friable enough for digging of burrows, but firm enough so that burrows do not collapse (USFWS 2008). Although populations of desert tortoise are not generally known to inhabit elevations much above 4,000 feet amsl, they occur from below sea level to an elevation of 7,300 feet amsl. Occupied habitat varies from flats and slopes dominated by creosote bush scrub at low elevations to rocky slopes in blackbrush and juniper woodland ecotones at higher elevations (USFWS 2011).

Desert tortoise was not observed during protocol surveys. Additionally, no suitable burrows or other desert tortoise sign were observed; therefore, this species is not expected to occur within the BSA.

Crotch's Bumble Bee

Crotch's bumble bee is a state candidate for listing as threatened. Crotch's bumble bee is distributed in coastal California, east towards the Sierra-Cascade Crest, and is less commonly in western Nevada (Koch 2012). It occurs in grassland and scrub communities that contain *Phacelia, Clarkia, Eriogonum, Eschscholzia*, and *Antirrhinum* species, which have been identified as genera with preferred nectar sources.

Documented occurrences of Crotch's bumble bee within the high desert are historical in nature, with the more recent occurrences located along the northern foothills of the San Bernardino Mountains. According to The Xerces Society for Invertebrate Conservation and the California Bumble Bee Atlas Community, there have been no recent occurrences within the high desert from 2022-2023. Additionally, only one CNDDB occurrence has been recorded within the high desert area which was in 1952 in an unknown specific location within the U.S. Geological Survey Phelan, California 7.5-minute topographic quadrangle map (CDFW. 2023c).

Crotch's bumble bee surveys were conducted in the months of July and August, peak blooming periods for California buckwheat and rubber rabbitbrush. These species are known to provide foraging resources for Crotch's bumble bee. Despite having the optimal surveying conditions with foraging resources available onsite, no Crotch's bumble bees or other bumble bee species were observed during these surveys. Other pollinators observed included honey bees (*Apis* sp.), hover flies (*Syrphus* sp.), and parasitic wasps (ichneumonid).

Crotch's bumble bee was not observed during the July and August focused surveys and has both historically and recently been rare within the high desert therefore, this species is not expected to occur within the BSA.

5.3.3 Potential Aquatic Resources

The Jurisdictional Aquatic Resources Delineation identified one ephemeral drainage within the BSA (Appendix D, ARDR). The results of the jurisdictional delineation concluded there is approximately 0.23 acres of jurisdictional aquatic resources within the BSA (Figure 7, Potential Jurisdictional Aquatic Resources). Of that total, 0.14 acres is non-wetland waters of the state under RWQCB/CDFW jurisdiction and 0.08 acres is of streambeds under only CDFW jurisdiction. This feature is not likely subject to USACE jurisdiction because this feature is isolated and does not meet the relatively permanent or significant nexus standard as a waters of the United States.

5.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The BSA is not mapped as an essential connectivity area or natural landscape block; the nearest essential connectivity area is approximately 4.75 miles southwest in the Cleghorn Mountain foothills (CDFW 2023f). Nonetheless, the BSA is mapped as a rank 3 Area of Conservation Emphasis (CDFW 2023g). According to CDFW (2023f), Rank 3 is defined as:

> Connections with implementation flexibility. These are areas that have been identified as having connectivity importance, but have not been identified as channelized areas, species corridors, or habitat linkages at this time. This may change with future changes in surrounding land use or regional specific information.

The BSA is likely mapped as a rank 3 due to the presence of Oro Grande Wash west of the BSA. Wildlife may locally move through Oro Grande Wash as a corridor; however, this feature is impeded to the north by the California Aqueduct. The BSA is located in an area of encroaching development and is bordered by U.S. Highway 395 to the east, Caliente Road to the west, and Joshua Street to the north. These roads are effectively at-grade with the surrounding land. However, Interstate 95 just east of Highway 395 constitutes a larger barrier with six divided lanes and center barriers. As a result, the Project site provides some space for wildlife movement but does not appear to serve as a significant regional wildlife corridor. On a local level, wildlife may move across the site when migrating or foraging/hunting. Since the Project does not provide for regional wildlife movement or serve as a regional wildlife corridor, it is not expected to contribute to the impediment of local or seasonal movement of wildlife through the surrounding habitat.

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6 Project Impacts

This section addresses direct and indirect impacts to special-status biological resources that would result from implementation of the Project. Proposed mitigation is provided in Section 7, Mitigation.

6.1 Explanation of Findings of Significance

Impacts to special-status vegetation communities, plant and wildlife species, and jurisdictional waters, including wetlands, must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible, because the significance of an activity may vary with the setting. Appendix G of the CEQA Guidelines, however, does provide "examples of consequences which may be deemed to be a significant effect on the environment" (14 CCR 15064[e]). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. CEQA Guidelines Section 15065(a) is also helpful in defining whether a project may have a significant effect on the environment. Under that section, a proposed Project may have a significant effect on the environment if the project has the potential to (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of a major period of California history or prehistory.

The following are the significance thresholds for biological resources provided in the CEQA Guidelines Appendix G, Environmental Checklist, which states that a project would potentially have a significant effect if it does any of the following:

Impact BIO-1	Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
Impact BIO-2	Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
Impact BIO-3	Has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
Impact BIO-4	Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
Impact BIO-5	Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
Impact BIO-6	Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to or result in permanent loss of an important resource, such as a population of a rare plant or wildlife species.

Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether that impact can be mitigated to a level below significance.

6.2 Definition of Impacts

Direct impacts refer to complete loss of a biological resource. For purposes of this report, it refers to the area where vegetation clearing, grubbing, or grading replaces biological resources. Direct impacts were quantified by overlaying the proposed impact limits on the biological resources map of the BSA. Direct permanent impacts would occur from construction of an industrial/warehouse building and associated off-site improvements.

Indirect impacts are reasonably foreseeable effects caused by a project's implementation on remaining or adjacent biological resources outside the direct disturbance zone. For purposes of this report, indirect impacts may affect areas outside the disturbance. Indirect impacts may be short-term and construction-related, or long-term and associated with development in proximity to biological resources.

The evaluation of Project impacts is organized by CEQA Guidelines Appendix G, Environmental Checklist.

6.3 Impacts Analysis

The acreages of impacts are provided in Table 5. Figure 6, Impacts to Biological Resources, shows the areas where impacts are anticipated to occur. All impacts for this Project were considered permanent, with no temporary impacts. Due to uncertainty of the final placement of the sewer line, a conservative approach was used to delineate the extent of impacts.

Table 5. Permanent Impacts to Vegetation Communities and Land Cover Types within the BSA

Vegetation Community/ Land Cover	Alliance	Association	Total Existing BSA (Acres)	On-Site Impacts (Acres)	Off-Site Impacts Areas (Acres)	Total Impacts (Acres)
Vegetation Communities						
Buckhorn Cholla/Big Galleta Grass Scrub	*Cylindropuntia acanthocarpa/ Pleuraphis rigida* Shrubland	*Ericameria cooperi* disturbance	3.65	2.74	0	2.74
Rubber Rabbitbrush Scrub	*Ericameria nauseosa* Shrubland	*Ericameria nauseosa*	1.93	1.44	0.34	1.78
Non-Native Grassland	N/A	N/A	9.46	6.83	0.39	7.22
Land Covers						
Urban/Developed	N/A	N/A	3.42	0	0.40	0.40
		Total[1]	**18.46**	**11.01**	**1.13**	**12.14**

Notes: N/A = Not Applicable.
[1] Total acreages may not sum exactly due to rounding.

6.3.1 Impact BIO-1: Special-Status Species

6.3.1.1 Impacts to Special-Status Plants

Direct Impacts

No non-listed special-status plant species were observed or have high or moderate potential to occur within the BSA; therefore, the Project would have no direct or indirect impacts to non-listed special-status plant species. In addition, the BSA does not occur within federally designated critical habitat for special-status plant species, and there would be no direct impacts to critical habitat.

One listed special-status plant species was observed within the BSA: western Joshua tree.

Western Joshua Tree

Western Joshua tree, a candidate for state listing under CESA, was observed and would be directly impacted by the Project. Based on the site plan, implementation of the Project would result in direct impacts to 35 western Joshua tree individuals from construction activities (Figure 6). All ground-disturbing activities are considered permanent impacts to western Joshua trees. Direct impacts to western Joshua tree are considered significant absent mitigation under CEQA.

As required by **Mitigation Measure (MM) BIO-2** (Desert Native Plants and Joshua Trees), mitigation for direct impacts to 35 western Joshua trees, their seed bank, and associated habitat will be fulfilled through conservation of western Joshua trees through a payment of fees consistent with the Western Joshua Tree Conservation Act or through payment to a CDFW-approved mitigation bank. In addition, implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to a less-than-significant level.

Implementation of **MM-BIO-2** (Desert Native Plants and Joshua Trees) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to western Joshua trees to less than significant.

Indirect Impacts

No western Joshua trees were found within 50 feet of the Project footprint. Thus, the Project would not result in indirect impacts to western Joshua trees outside of the construction footprint.

6.3.1.2 Impacts to Special-Status Wildlife

Direct Impacts

Direct impacts could potentially occur to special-status wildlife species from impacts to habitat and impacts to the species from injury or mortality of individuals due to construction activities within the Project site.

The Project could result in significant, direct impacts to three special-status wildlife species—loggerhead shrike, and burrowing owl—and nesting migratory birds and raptors; therefore, these species are further discussed below.

Loggerhead Shrike

Loggerhead shrike was observed during the biological resource surveys. Extensive suitable nesting habitat, particularly western Joshua trees, is present within the BSA.

The Project would result in the loss of 4.52 acres of suitable habitat for loggerhead shrike, including impacts to buckhorn cholla/big galleta grass scrub and rubber rabbitbrush scrub and removal of individual western Joshua trees. These potential direct impacts to loggerhead shrike are considered significant absent mitigation under CEQA.

To avoid potential impacts to nesting loggerhead shrike, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in **MM-BIO-1** (Pre-Construction Surveys).

As required by **MM-BIO-2** (Desert Native Plants and Joshua Trees), mitigation for direct impacts to 35 western Joshua trees will be fulfilled through payment of applicable fees consistent with the Western Joshua Tree Conservation Plan or through payment to a CDFW-approved mitigation bank. The fees will contribute to conservation of western Joshua tree, which will also provide habitat for loggerhead shrike. Thus, mitigation for impacts to western Joshua tree will also mitigate for impacts to loss of suitable habitat for loggerhead shrike.

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-2** (Desert Native Plants and Joshua Trees) would reduce potential direct impacts to loggerhead shrike to less than significant.

Burrowing Owl

Focused surveys were not conducted due to the lack of suitable burrows with openings 4 inches or greater during the initial biological site visit and desert tortoise survey. However, marginal habitat exists on site and burrowing owl is a transient species; therefore, the species could potentially occupy the BSA prior to construction.

Pursuant to the California Fish and Game Code and the MBTA, a pre-construction survey in compliance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) would be necessary to reevaluate the locations of potential burrowing owl burrows located within the Project limits so take of owls or active owl nests can be avoided. Consistent with **MM-BIO-1** (Pre-Construction Surveys), a pre-construction survey for burrowing owl shall be conducted in areas supporting potentially suitable habitat within 14 days prior to the start of construction activities. In addition, implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to a less-than significant level.

To avoid potential impacts to nesting burrowing owl, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in **MM-BIO-1** (Pre-Construction Surveys).

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential direct impacts to burrowing owl to less than significant.

Nesting Migratory Birds and Raptors

Similar to most other sites containing trees, shrubs, and other vegetation, the BSA contains opportunities for birds of prey (raptors) and other avian species to nest on site. Native nesting bird species with potential to occur within the BSA are protected by California Fish and Game Code Sections 3503 and 3503.5 and by the federal MBTA (16 USC 703–711). Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Currently, California considers any nest that is under construction or modification or is supporting eggs, nestlings, or juveniles as "active." Therefore, impacts to nesting migratory birds and raptors would be considered significant absent mitigation under CEQA.

To ensure compliance with the California Fish and Game Code and MBTA and to avoid potential impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31, depending on the species). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal. This requirement is outlined in **MM-BIO-1** (Pre-Construction Surveys). With the incorporation of **MM-BIO-1** (Pre-Construction Surveys), impacts associated with nesting birds, including raptors, would be less than significant.

Indirect Impacts

Indirect impacts to special-status wildlife species are those that occur during construction to species present near the site but not within the construction zone. These include fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat or that can result in disruption of bird nesting and abandonment of nests; increased human presence, which can also disrupt daily activities of wildlife and cause them to leave an area; night-time lighting, which can disrupt the activity patterns of nocturnal species, including many mammals and some birds, amphibians, and reptiles; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery.

The Project site could result in significant, indirect impacts to three special-status wildlife species—loggerhead shrike, and burrowing owl—and nesting migratory birds and raptors; therefore, these species are further discussed below.

Loggerhead Shrike

Construction activities have the potential to result in indirect impacts to loggerhead shrike and their habitat. Those impacts could include dust, noise and vibration, increased human presence, vehicle collisions, chemical spills, and night-time lighting. These potential short-term or temporary indirect impacts to loggerhead shrike are considered significant absent mitigation under CEQA.

Post-construction (long-term) activities have the potential to result in indirect impacts to loggerhead shrike and their habitat. Those long-term impacts could result from development within or adjacent to loggerhead shrike habitat including night-time lighting and increased invasive plant species that may degrade habitat. These potential long-term indirect impacts to loggerhead shrikes are considered significant absent mitigation under CEQA.

MM-BIO-1 (Pre-Construction Surveys) would require nesting bird surveys and would result in establishment of construction buffers around nests, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, night-time lighting, and vehicle collisions. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that all workers complete a Worker Environmental Awareness Program (WEAP) training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction. **MM-BIO-3** (Designated Biologist and Best Management Practices) would additionally require night-time lighting during construction within 50 feet of habitat for special-status species to be shielded downward.

Potential long-term indirect impacts that could result from development within or adjacent to loggerhead shrike habitat include night-time lighting and increased invasive plant species that may degrade habitat. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that landscape plants within 200 feet of native vegetation communities not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php).

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to loggerhead shrike to less than significant.

Burrowing Owl

No burrowing owl or suitable burrowing owl burrows were observed within the BSA during the biological reconnaissance. However, marginal suitable habitat exists on site, and burrowing owls may colonize an area quickly and could potentially occupy the BSA prior to construction. A pre-construction survey is needed to confirm their absence prior to construction. Should burrowing owls occur on site, construction activities have the potential to result in indirect impacts to burrowing owls and their habitat. Those impacts could include dust, noise and vibration, trash and debris, increased human presence, vehicle collisions, chemical spills, and night-time lighting. These potential short-term or temporary indirect impacts to burrowing owls are considered significant absent mitigation under CEQA.

Post-construction (long-term) activities have the potential to result in indirect impacts to burrowing owls and their habitat. Those long-term impacts could result from development within or adjacent to burrowing owl habitat including night-time lighting and increased invasive plant species that may degrade habitat. These potential long-term indirect impacts to burrowing owls are considered significant absent mitigation under CEQA. As burrowing owls are considered absent until further confirmation from pre-construction surveys, impacts to burrowing owls associated with the Project and BSA would be less than significant under CEQA.

MM-BIO-1 (Pre-Construction Surveys) would require pre-construction burrowing owl surveys and result in establishment of construction buffers around any burrowing owl burrows found, thus limiting effects from most short-term indirect impacts, including noise and vibration, increased human presence, night-time lighting, and vehicle collisions. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. To reduce fugitive

dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction. **MM-BIO-3** (Designated Biologist and Best Management Practices) would additionally require night-time lighting during construction within 50 feet of habitat for special-status species to be shielded downward. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also require trash and debris to be removed regularly and would require animal-resistant trash receptacles to avoid attracting urban-related, predator species.

Potential long-term indirect impacts that could result from development within or adjacent to burrowing owl habitat include night-time lighting and increased invasive plant species that may degrade habitat. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require night-time lighting during operations within 50 feet of habitat for special-status species to be shielded downward. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also require that landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's California Invasive Plant Inventory (http://www.cal-ipc.org/ip/inventory/index.php).

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to burrowing owl to less than significant.

Nesting Migratory Birds and Raptors

Construction activities have the potential to result in indirect impacts to nesting migratory birds and raptors and their habitats. Those impacts could include the loss of a nest through increased dust, noise and vibration, increased human presence, and night-time lighting. These potential short-term or temporary indirect impacts to these species are considered significant absent mitigation under CEQA.

To ensure compliance with the California Fish and Game Code and MBTA and to avoid potential indirect impacts to nesting birds, it is recommended that the vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31, depending on the species). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal (**MM-BIO-1** [Pre-Construction Surveys]). Indirect impacts, including increased dust, noise, and vibration, increased human presence, and night-time lighting, will be offset through implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices), which would require night-time lighting during construction within 50 feet of habitat for special-status species to be shielded downward. **MM-BIO-3** (Designated Biologist and Best Management Practices) would also require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which limit the amount of fugitive dust generated during construction.

Implementation of **MM-BIO-1** (Pre-Construction Surveys) and **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to nesting migratory birds and raptors to less than significant.

6.3.2 Impact BIO-2: Sensitive Vegetation Communities

6.3.2.1 Direct Impacts

A total of 12.14 acres, including 11.01 acres within the Project site and 1.13 acres within the off-site improvement area, would be permanently impacted by the Project (Figure 6). As stated in Section 5.1, Vegetation Communities and Land Covers, CDFW state rankings of 1, 2, or 3 are considered high priority for inventory or special-status, and impacts to these communities typically require mitigation. No sensitive vegetation communities or land cover types were found within the BSA; vegetation communities and land cover types within the BSA include buckhorn cholla/big galleta grass scrub, rubber rabbitbrush scrub, non-native grassland, and urban/developed lands. Therefore, no direct impacts to sensitive vegetation communities are anticipated to occur, and no additional measures are recommended.

6.3.2.2 Indirect Impacts

No sensitive vegetation communities occur within the 100-foot buffer of the BSA, as stated in Section 5.1 and Table 2. Thus, no indirect impacts to sensitive vegetation communities are anticipated to occur, and no additional measures are recommended.

6.3.3 Impact BIO-3: State or Federally Protected Wetlands

6.3.3.1 Direct Impacts

Direct impacts to 0.23 acres of jurisdictional aquatic resources would occur with Project implementation. For direct impacts to 0.23 acres of waters and streams that are regulated under the California Porter–Cologne Water Quality Control Act and California Fish and Game Code, permits would be required from each of the regulatory agencies; this typically entails providing mitigation to offset the impacts to and loss of beneficial uses and functions and values of the jurisdictional waters and habitats. **MM-BIO-4** (Aquatic Resources Mitigation) would require obtaining permits from each of the regulatory agencies. A waste discharge report would be required for impacts to waters of the state, and a Streambed Alteration Agreement would be required for impacts to jurisdictional streambed. **MM-BIO-3** (Designated Biologist and Best Management Practices) would require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. **MM-BIO-3** (Designated Biologist and Best Management Practices) also requires that impacts occur within the fenced, staked, or flagged area that is clearly delineated within the Project impact footprint. **MM-BIO-3** (Designated Biologist and Best Management Practices) would additionally ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures in accordance with the Mojave Desert Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

Implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) and **MM-BIO-4** (Aquatic Resources Mitigation) would reduce potential direct impacts to jurisdictional aquatic resources to less than significant.

6.3.3.2 Indirect Impacts

Potential short-term indirect impacts would be significant absent mitigation. Implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) gives the Project's designated biologist the authority to stop work if construction is not compliant with this CEQA document. **MM-BIO-3** (Designated Biologist and Best Management Practices) also requires that an experienced biologist oversee compliance with the protective measures, including limiting impacts within the Project footprint. **MM-BIO-3** (Designated Biologist and Best Management Practices) would additionally provide construction personnel with training related to waters of the state that are present on and adjacent to the impact footprint. **MM-BIO-3** (Designated Biologist and Best Management Practices) provides for documentation that the education program was administered to applicable personnel. **MM-BIO-3** (Designated Biologist and Best Management Practices) requires that impacts occur within the fenced, staked, or flagged area that is clearly delineated within the Project impact footprint. The construction crew would be responsible for unauthorized impacts from construction activities to waters of the state that are outside the permitted Project footprint. Thus, implementation of **MM-BIO-3** would enable the Project to avoid and minimize inadvertent spillover impacts outside of the approved impact footprint.

MM-BIO-3 (Designated Biologist and Best Management Practices) would ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. Thus, implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would help to avoid and minimize impacts to waters of the state from any construction-related chemical spills.

A Stormwater Pollution Prevention Plan would be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. Best management practices employed on site would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a Stormwater Pollution Prevention Plan would help to avoid and minimize the potential effects of stormwater erosion during construction.

Potential long-term (post-construction) indirect impacts from operations and maintenance activities may include changes in water quality and accidental chemical spills.

Implementation of low-impact-development features and best management practices would, to the maximum extent practicable, reduce the discharge of pollutants into receiving waters, including inadvertent release of pollutants (e.g., hydraulic fluids and petroleum); the improper management of hazardous materials, trash, and debris; and the improper management of portable restroom facilities (e.g., regular service) in accordance with all relevant local and state development standards. In addition, in accordance with California Green Building Standards Code requirements (24 CCR, Part 11), Project source controls to improve water quality would be provided for outdoor material storage areas, outdoor trash storage/waste handling areas, and outdoor loading/unloading areas. Therefore, impacts to jurisdictional aquatic resources due to changes in water quality would be avoided and minimized through implementation of low-impact-development features and best management practices.

MM-BIO-3 (Designated Biologist and Best Management Practices) would ensure a prompt and effective response to any accidental chemical spills and repair and clean-up of any hazardous waste. Thus, implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would help to avoid and minimize impacts to jurisdictional aquatic resources from any operations-related chemical spills.

Implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to jurisdictional aquatic resources to less than significant.

6.3.4 Impact BIO-4: Wildlife Corridors and Habitat Linkages

6.3.4.1 Direct Impacts

No significant direct permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with Project activities. Existing nearby habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following Project completion. Wildlife movement may be temporarily disrupted during the construction phase of the Project, although this effect would be both localized and short term in nature. Nearby corridors that could support wildlife movement in the region, include the Oro Grande Wash and La Bureau of Power and Light Road immediately to the west, would not be impacted by the Project. Further, the Project site does not contain nursery sites, such as bat colony roosting sites or colonial bird nesting areas. Therefore, impacts associated with wildlife movement, wildlife corridors, and wildlife nursery sites would be less than significant under CEQA.

6.3.4.2 Indirect Impacts

Construction-related short-term noise and work in the vicinity would be temporary and would not be expected to significantly disrupt wildlife movement due to ambient noise conditions and the ability for wildlife to continue to move around the construction area and upland portions of the BSA during and after construction. Temporary disturbance to local species may occur but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Work activities are not currently proposed during the night-time. Therefore, implementation of the Project would not result in significant short-term indirect impacts to wildlife corridors and migratory routes.

Potential long-term (post-construction) indirect impacts from operations and maintenance activities could disrupt wildlife movement around the Project due to increased lighting from buildings. **MM-BIO-3** (Designated Biologist and Best Management Practices) would ensure all lighting during operations and within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife would be directed away from natural areas.

Implementation of **MM-BIO-3** (Designated Biologist and Best Management Practices) would reduce potential indirect impacts to wildlife movement to less than significant.

6.3.5 Impact BIO-5: Associated with Local Policies and Ordinances

California Desert Native Plants and Western Joshua Trees

A total of 35 western Joshua trees were documented within the BSA. All 35 individuals were documented within the Project site and will be directly removed by the Project (Figure 6). In addition to western Joshua tree, one desert native plant was observed within the BSA during the focused desert native plant survey: Wiggins' cholla (Figure 6).

In accordance with Chapter 16.24 of the Hesperia Municipal Code, the preparation of a western Joshua tree and desert native plants relocation plan is required to mitigate impacts to Joshua trees and desert native plants as a

result of the Project. As of the date of this report, relocation of western Joshua trees is not a requirement of CDFW. However, relocation may be requested by CDFW following review of the Western Joshua Tree Conservation Act Incidental Take Permit Application. Should relocation be required by CDFW, the relocation specifications are detailed in Appendix I.

As required by **MM-BIO-2** (Desert Native Plants and Joshua Trees), mitigation for direct impacts to 35 western Joshua trees will be fulfilled through payment of fees consistent with the Western Joshua Tree Conservation Plan or through payment to a CDFW-approved mitigation bank. Conservation efforts for western Joshua tree will focus on the conservation of large, interconnected Joshua tree woodlands on lands where edge effects are limited, versus lands in urban settings that are subject to habitat fragmentation and edge effects, such as the Project site. Despite the City not requiring a relocation plan, a Joshua Tree Preservation, Protection, and Relocation Plan and Desert Native Plant Relocation Plan is provided in Appendix I to provide additional details about western Joshua tree within the Project site.

The Project could result in potentially significant impacts to native desert plants and western Joshua trees, which are addressed by state and local plant and tree preservation regulations, absent mitigation. Implementation of **MM-BIO-2** (Desert Native Plants and Joshua Trees) would reduce potential impacts California desert native plants and western Joshua tree to less than significant.

6.3.6 Impact BIO-6: Habitat Conservation Plans

The Project is located within the California Desert Conservation Area Plan (BLM 1980). The Project is also located within the Draft West Mojave Plan (BLM 2005) and the Desert Renewable Energy Conservation Plan (BLM 2016) areas. The West Mojave Plan and Desert Renewable Energy Conservation Plan are amendments to the California Desert Conservation Area Plan. The Bureau of Land Management issued a Record of Decision for the West Mojave Plan in 2006, although the West Mojave Plan has not been formally adopted. The Project will not conflict with the conservation criteria associated with the California Desert Conservation Area Plan or Desert Renewable Energy Conservation Plan. Therefore, impacts associated with an adopted habitat conservation plan would be less than significant under CEQA.

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7 Mitigation

MM-BIO-1 Pre-Construction Surveys. The property owner or Project contractor will be responsible for scheduling vegetation clearing and grading activities outside of the typical avian nesting season (February 1 to August 31) to the maximum extent practical in order to comply with the Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Game Code. ~~If active nests are observed, a minimum buffer zone from the occupied nest is recommended to the maximum extent practicable. Once nesting has ended, the buffer may be removed.~~ If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the Project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the MBTA and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate buffer established around the nest, which will be determined by the biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall also be conducted when construction occurs in close proximately to an active nest buffer. No Project activities may encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until is determined the nestlings have fledged and the nest is no longer considered active.

In addition, a pre-construction survey for burrowing owls shall be conducted by a City approved, licensed biologist no more than 14 days prior to commencement of grading, with a second survey within 24 hours of commencement of grading, and results shall be submitted to and approved by the Planning Division prior to issuance of a grading permit. The survey shall be conducted according to the recommended guidelines of the California Burrowing Owl Consortium (1993) and in consultation with the California Department of Fish and Wildlife (CDFW). If burrowing owls are detected, a Burrowing Owl Protection Plan shall be prepared in consultation with CDFW. The Burrowing Owl Relocation Plan will include that disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers will be established around occupied burrows in accordance with guidance provided in the Staff Report on Burrowing Owl Mitigation or current version. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed.

Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project site and within a buffer zone by installing one-way doors in burrow entrances. These doors will be placed at least 48 hours prior to ground-disturbing activities. The Project site shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat will be provided following the guidance in the Staff Report on Burrowing Owl Mitigation or current version.

Where possible, burrows will be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow.

MM-BIO-2 Desert Plants and Joshua Trees. Prior to the issuance of grading permits, the property owner or Project contractor shall submit an application and applicable fee paid to the City for removal or relocation of protected native desert plants under Hesperia Municipal Code Chapter 16.24 as required and schedule a pre-construction site inspection with the Planning Division and the Building Division. The application shall include certification from an appropriate tree expert or native desert plant expert to determine that proposed removal or relocation of protected native desert plants are appropriate, supportive of a healthy environment, and in compliance with the City's Municipal Code. Protected plants subject to Hesperia Municipal Code Chapter 16.24 may be relocated on site or within an area designated as an area for species to be adopted later. The application shall include a detailed Native Desert Transplant Plan for removal of all protected plants on the project site~~, including the 346 chaparral yucca, 12 cactus plants, and 577 Joshua trees to be potentially transplanted.~~ The plan shall be prepared by an appropriate tree expert or desert native plant expert recognized as qualified to conduct the survey by the City, and shall include but not be limited to the following measures:

- Salvaged plants will be transplanted immediately to a permanent City approved off-site area if possible. If the plants cannot be immediately taken to the permanent relocation area at the time of excavation, they may be transplanted in a temporary area (stockpiled) prior to being moved to the permanent relocation area in an approved area within the project site, either a designated area within the parcels to be developed or within the designated remainder parcel.
- ~~Joshua trees shall be marked on the north facing side prior to excavation. Transplanted Joshua trees shall be planted in the same orientation as they occurred on the project site, with the marking on the north side of the trees facing north at the transplantation site.~~
- Transplanted plants will be watered at the time of transplantation, either to the permanent relocation site or the stockpile area, and monthly, as necessary. The schedule of watering will be determined by the tree expert or desert native plant expert to maintain plant health. Watering of the transplanted plants will continue until it has been determined that the transplants have become established in the permanent relocation area and no longer require supplemental watering.
- ~~A special-status plant survey shall be completed by a qualified biologist when the Opuntia basilaris species blooms (April- August) to verify the presence of this special status plan species on the project site. The survey shall be completed not more than one year prior to issuance of grading permits, and shall be included with the Native Desert Transplant Plan.~~
- Mitigation for direct impacts to 35 western Joshua tree individuals will be fulfilled through payment of the elected fees as described in Section 1927.3 of the Western Joshua Tree Conservation Act. In conformance with the fee schedule, mitigation will consist of payment of $2,500 for each western Joshua tree 5 meters or greater in height, $500 for trees 1 meter or greater but less than 5 meters in height, and $340 for each western Joshua tree less than 1 meter in height. California Department of Fish and Wildlife (CDFW) determines the final fee. Alternatively, mitigation will occur through off-site conservation or through a CDFW-approved mitigation bank, or as required by a Section 2081 Incidental Take Permit, if received.

MM-BIO-3 Designated Biologist and Best Management Practices. During Project grading activities, the limits of grading and construction activities within the project footprint shall coincide with the Project footprint. The area to be graded shall be clearly delineated with temporary staking, flagging, or similar objects by the property owner or Project contractor. Grading of the Project footprint should be minimized to the greatest extent feasible and access to it should be via pre-existing/maintained access routes to the greatest extent possible.

The Designated Biologist shall have authority to immediately stop any activity that does not comply with the biological resources mitigation measures and/or to order any reasonable measure to avoid the unauthorized take of an individual western Joshua tree.

The Designated Biologist shall be on site daily when impacts occur. The Designated Biologist shall conduct compliance inspections to minimize incidental take of western Joshua trees and impacts to other sensitive biological resources; prevent unlawful take of western Joshua trees; and ensure that signs, stakes, and fencing are intact and that impacts are only occurring inside the permitted impact footprint. Weekly written observation and inspection records that summarize oversight activities and compliance inspections and monitoring activities required by the Incidental Take Permit shall be prepared.

Construction Monitoring Notebook. The Designated Biologist shall maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all personnel who have successfully completed the education program. The permittee shall ensure that a copy of the construction monitoring notebook is available for review at the Project site upon request by the California Department of Fish and Wildlife.

Education Program. An education program (Worker Environmental Awareness Program [WEAP]) for all persons employed or otherwise working in the Project site shall be administered before performing impacts. The WEAP shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and status of western Joshua tree, burrowing owl, and loggerhead shrike and other biological resources mitigation measures described in the California Environmental Quality Act document. Interpretation for non-English-speaking workers will be provided, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project site. Upon completion of the WEAP, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees who will be conducting work in the Project site.

Lighting. Lighting for construction activities and operations within 50 feet of the outside edge of the impact footprint containing habitat for special-status wildlife will be directed away from natural areas.

Invasive Plant Management. To reduce the spread of invasive plant species, landscape plants within 200 feet of native vegetation communities shall not be on the most recent version of the California Invasive Plant Council's Inventory of Invasive Plants (http://www.cal-ipc.org/ip/inventory/index.php). After construction, the Project applicant shall continually remove invasive plant species on site by hand or mechanical methods, as feasible.

Trash and Debris. The following avoidance and minimization measures shall be implemented during Project construction: (1) Fully covered trash receptacles that are animal-proof will be installed and used by the operator to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the Project site. (2) Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis.

MM-BIO-4 Aquatic Resources Mitigation. The Project site supports aquatic resources that are jurisdictional under the Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW). Prior to construction activity, the Project applicant shall coordinate with the Lahontan RWQCB (Region 6) to ensure conformance with the requirements of the Porter-Cologne Water Quality Control Act. Prior to activity within CDFW jurisdictional streambeds or associated riparian habitat, the applicant shall coordinate with CDFW (Inland Deserts Region 6) relative to conformance with the Lake and Streambed Alteration permit requirements.

The Project shall mitigate to ensure no-net-loss of waters at a minimum of 1:1 with re-establishment credits (0.14 acres of RWQCB/CDFW and 0.08 acres of only CDFW for a total of 0.23 acres of jurisdictional waters) for impacts to aquatic resources. Mitigation shall be completed through the use of a mitigation bank (e.g., West Mojave Mitigation Bank) or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with the RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Should applicant-sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared in accordance with State Water Resources Control Board guidelines and approved by the agencies in accordance with the applicable permits. The HMMP shall include a conceptual planting plan, including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; and proposed success criteria. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity.

Best management practices shall be implemented to avoid any indirect impacts on jurisdictional waters, including the following:

- Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
- Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
- Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages.
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife

resources resulting from Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.

- No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the Project site.

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8 References

ASM (American Society of Mammalogists). 2023. "Mammal Diversity Database." Version v1.11 released April 15, 2023. Accessed October 2023. https://www.mammaldiversity.org/index.html

BLM (Bureau of Land Management). 1980. Desert Conservation Area Plan. 1980. Accessed July 2021. https://eplanning.blm.gov/public_projects/lup/66949/82080/96344/CDCA_Plan.pdf.

BLM. 2005. West Mojave Plan: A Habitat Conservation and California Desert Conservation Area Plan Amendment. Final Environmental Impact Report and Statement. Vols. 1 and 2. https://eplanning.blm.gov/eplanning-ui/project/72544/570.

BLM. 2016. Land Use Plan Amendment to the California Desert Conservation Plan, Bishop Resource Management Plan, and Bakersfield Resource Management Plan. BLM/CA/PL-2016/03+1793+8321. Prepared by the BLM. September 2016.

CDFW (California Department of Fish and Wildlife). 2010. Mohave Ground Squirrel Survey Guidelines. July 2010. Accessed January 2021. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83975.

CDFW. 2012. Staff Report on Burrowing Owl Mitigation, State of California Natural Resource Agency, Department of Fish and Game, May 7, 2012.

CDFW. 2020. "California Fish and Game Commission Notice Of Findings, Western Joshua Tree (*Yucca brevifolia*)." September 24, 2020. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=183565&inline.

CDFW. 2023a. "Special Vascular Plants, Bryophytes, and Lichens List." California Natural Diversity Database. Sacramento, California: CDFW, Biogeographic Data Branch. October 2023. Accessed October 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline.

CDFW. 2023b. "Special Animals List." California Natural Diversity Database. Sacramento, California: CDFW, Biogeographic Data Branch. October 2023. Accessed October 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline=1.

CDFW. 2023c. RareFind 5, Version 5.3.0. California Natural Diversity Database. Sacramento, California: CDFW, Biogeographic Data Branch. Accessed October 2023. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2023d. "California Natural Communities List." Sacramento, California: CDFW, Vegetation Classification and Mapping Program. June 1, 2023. Accessed October 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CDFW. 2023e. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species: CDFW. Accessed October 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline

CDFW. 2023f. Biogeographic Information and Observation System (BIOS). Version 6.23.0915. Sacramento, California: CDFW, Biogeographic Data Branch. Accessed October 2023. https://apps.wildlife.ca.gov/bios/?al=ds85.

CDFW. 2023g. Areas of Conservation Emphasis. Version 5.92.26. Sacramento, California: CDFW, Biogeographic Data Branch. Accessed October 2023. https://apps.wildlife.ca.gov/ace/.

Chesser, R. T., S. M. Billerman, K. J. Burns, C. Cicero, J. L. Dunn, B. E. Hernández-Baños, R. A. Jiménez, A. W. Kratter, N. A. Mason, P. C. Rasmussen, J. V. Remsen, Jr., and K. Winker. 2023. Check-list of North American Birds (online). American Ornithological Society. https://checklist.americanornithology.org/taxa/

City of Hesperia. 2009. Protected Plant Policy. May 29, 2009. http://www.cityofhesperia.us/DocumentCenter/View/1571/PL-17-protected-plant-policy-5-29-09?bidId=

City of Hesperia. 2010. The City of Hesperia General Plan 2010. Hesperia, California. Accessed May 2022. https://www.cityofhesperia.us/409/Hesperia-General-Plan.

CNPS. 2023a. Inventory of Rare and Endangered Plants (online edition, v9.5). Sacramento, California: California Native Plant Society, Rare Plant Program. Accessed October 2023. http://www.rareplants.cnps.org/.

CNPS. 2023b. A Manual of California Vegetation, Online Edition. Accessed September 2023. http://www.cnps.org/cnps/vegetation/.

Coulombe, H.N. 1971. “Behavior and Population Ecology of the Burrowing owl, Speotyto cunicularia, in the Imperial Valley of California.” Condor 73:162–176.

County of San Bernardino. 2007a. 2006 General Plan Program, Final Environmental Impact Report and Appendices. SCH No. 2005101038. February 2007. http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FinalEIR2007.pdf.

County of San Bernardino. 2007b. County of San Bernardino 2007 Development Code. Amended 2014. http://www.sbcounty.gov/Uploads/lus/DevelopmentCode/DC011614.pdf.

Crother, B.I. 2017. “Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 8th ed.” Herpetological Circular No. 43. Ed. J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.

Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. “Burrowing Owl (*Athene cunicularia*).” In California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California, edited by W.D. Shuford and T. Gardali, 218–226. Studies of Western Birds no. 1. California: Western Field Ornithologists (Camarillo), and California Department of Fish and Game (Sacramento). February 4, 2008. Accessed December 11, 2012. http://www.dfg.ca.gov/wildlife/nongame/ssc/birds.html.

Google Earth. 2023. Google Earth, desktop application; centered on the project site. Accessed October 2023. https://www.google.com/earth/

Green, G.A. and R.G. Anthony. 1989. "Nesting Success and Habitat Relationships of Burrowing owls in the Columbia Basin, Oregon." Condor 91:347–354.

Haug, E.A., B.A. Millsap, and M.S. Martell. 1993. "The Burrowing Owl (*Speotyto cunicularia*)." In The Birds of North America, edited by A. Poole and F. Gill. Philadelphia, Pennsylvania: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.

Historic Aerials Online. 2023. Historical Aerials by NETRonline. Accessed September 2023. https://www.historicaerials.com/.

Humple, D. 2008. "Loggerhead Shrike (*Lanius ludovicianus*)." In California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California, edited by W.D. Shuford and T. Gardali, 271–277. Studies of Western Birds no. 1. California: Western Field Ornithologists (Camarillo) and California Department of Fish and Game (Sacramento). February 4, 2008. Accessed December 11, 2012. http://www.dfg.ca.gov/wildlife/nongame/ssc/birds.html.

Jepson Flora Project. 2023. Jepson eFlora. Berkeley, California: University of California. Accessed January 2023. http://ucjeps.berkeley.edu/interchange/index.html.

Koch J. B., Strange J. P., Williams P. 2012. Bumble bees of the western United States. Pollinator Partnership; San Francisco, CA: 2012. 144

Lantz, S. J., H. Smith, and D.A. Keinath. 2004. Species Assessment for Western Burrowing Owl (*Athene cunicularia hypugaea*) in Wyoming. Prepared for the U.S. Department of Interior and Bureau of Land Management, Wyoming State Office, Cheyenne, Wyoming. September 2004.

Martin, D.J. 1973. "Selected Aspects of Burrowing owl Ecology and Behavior." Condor 75: 446–456.

Moyle, P. B. 2002. *Inland fishes of California: revised and expanded*. University of California Press.

NABA (North American Butterfly Association). 2016. Checklist of North American Butterflies Occurring North of Mexico. Edition 2.3. Accessed October 2023. http://sntbberry.cityofsanteeca.gov/sites/FanitaRanch/Public/Remainder%20of%20the%20Record/(2)%20Reference%20Documents%20from%20EIR%20&%20Technical%20Reports/Tab%20423%20-%202016-12-29%20NABA%202016.pdf.

NatureServe. 2022. "Definitions of NatureServe Conservation Status Ranks." Accessed October 2023. https://help.natureserve.org/biotics/content/record_management/Element_Files/Element_Tracking/ETRACK_Definitions_of_Heritage_Conservation_Status_Ranks.htm#:~:text=The%20ranking%20system%20facilitates%20a,individual%20Natural%20Heritage%20Program%20scient.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. Draft Vegetation Communities of San Diego County. March 2008. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch9.0/rtcrefaletters/014%202013-12-19_OberbauerTM2008.pdf.

Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. A Manual of California Vegetation. 2nd ed. Sacramento, California: California Native Plant Society.

SDNHM (San Diego Natural History Museum). 2002. Checklist of Butterflies in San Diego County. Accessed October 2023. https://www.sdnhm.org/science/entomology/projects/checklist-of-butterflies-of-san-diego-county/

SWRCB (State Water Resources Control Board). 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Adopted April 2, 2019. https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf.

UCD SIG (University of California Davis Sustainability Indicators Group). 2021. "Oro Grande Wash." California Water Sustainability. Accessed July 2021. https://indicators.ucdavis.edu/cwip/huc/180902080704.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf.

USACE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual.* ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf.

USDA (U.S. Department of Agriculture). 2023a. "Web Soil Survey" USDA, Natural Resources Conservation Service. Accessed October 2023. http://websoilsurvey.nrcs.usda.gov/.

USDA. 2023b. PLANTS Database. USDA Natural Resources Conservation Service. Accessed October 2023. http://plants.usda.gov/java/.

USFWS (U.S Fish and Wildlife Service). 2008. Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise (*Gopherus agassizii*). California and Nevada Region, Sacramento, California.

USFWS. 2010. Preparing for any Action That May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*).

USFWS. 2011. Recovery Plan for the Mojave Population of the Desert Tortoise (*Gopherus agassizii*). Sacramento, California: Region 8, Pacific Southwest Region, U.S. Fish and Wildlife Service. May 6, 2011. https://www.fws.gov/nevada/desert_tortoise/documents/recovery_plan/RRP%20for%20the%20Mojave%20Desert%20Tortoise%20-%20May%202011.pdf.

USFWS. 2022. Environmental Conservation Online System, Information for Planning and Conservation Report (online edition, v2.3.2). Accessed October 2023. http://ecos.fws.gov/ipac/.

USFWS. 2023. “National Wetlands Inventory.” U.S. Department of the Interior, USFWS. Accessed May 2023. http://www.fws.gov/wetlands/.

USGS (U.S. Geological Survey). 2023. Flow Lines, Water Points, Watershed Boundaries for Hydrologic Units, Water Bodies (GIS data). National Hydrology Dataset. Accessed October 2023. http://nhd.usgs.gov/.

WRCC (Western Regional Climate Center). 2023. “Hesperia, California: Period of Record Monthly Climate Summary.” Accessed October 2023. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3935.

Yosef, R. 1996. “Loggerhead Shrike.” In The Birds of North America Online, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. Accessed February 12, 2008. http://bna.birds.cornell.edu/bna/species/231.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. California’s Wildlife. Vol. II. Birds. Sacramento, California: California Department of Fish and Game.

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Appendix A
Figures

SOURCE: ESRI Imagery 2023; Open Street Map 2019

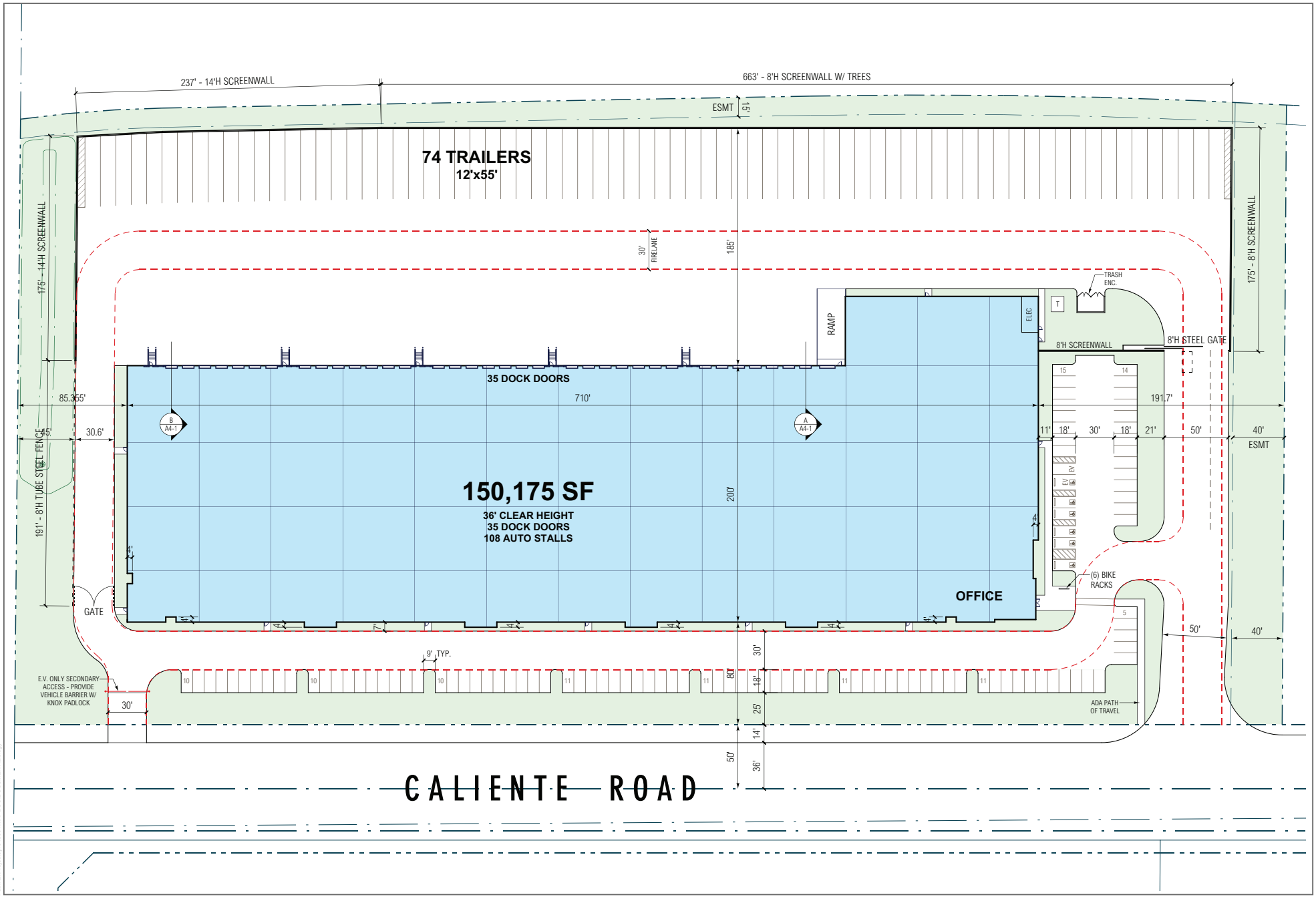
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

HCC 1 Lot 5 Project



Source: RGA 2024

FIGURE 2
Site Plan
HCC 1 Lot 5 Project

SOURCE: ESRI Imagery 2023; Open Street Map 2019, USDA SSURGO 2008

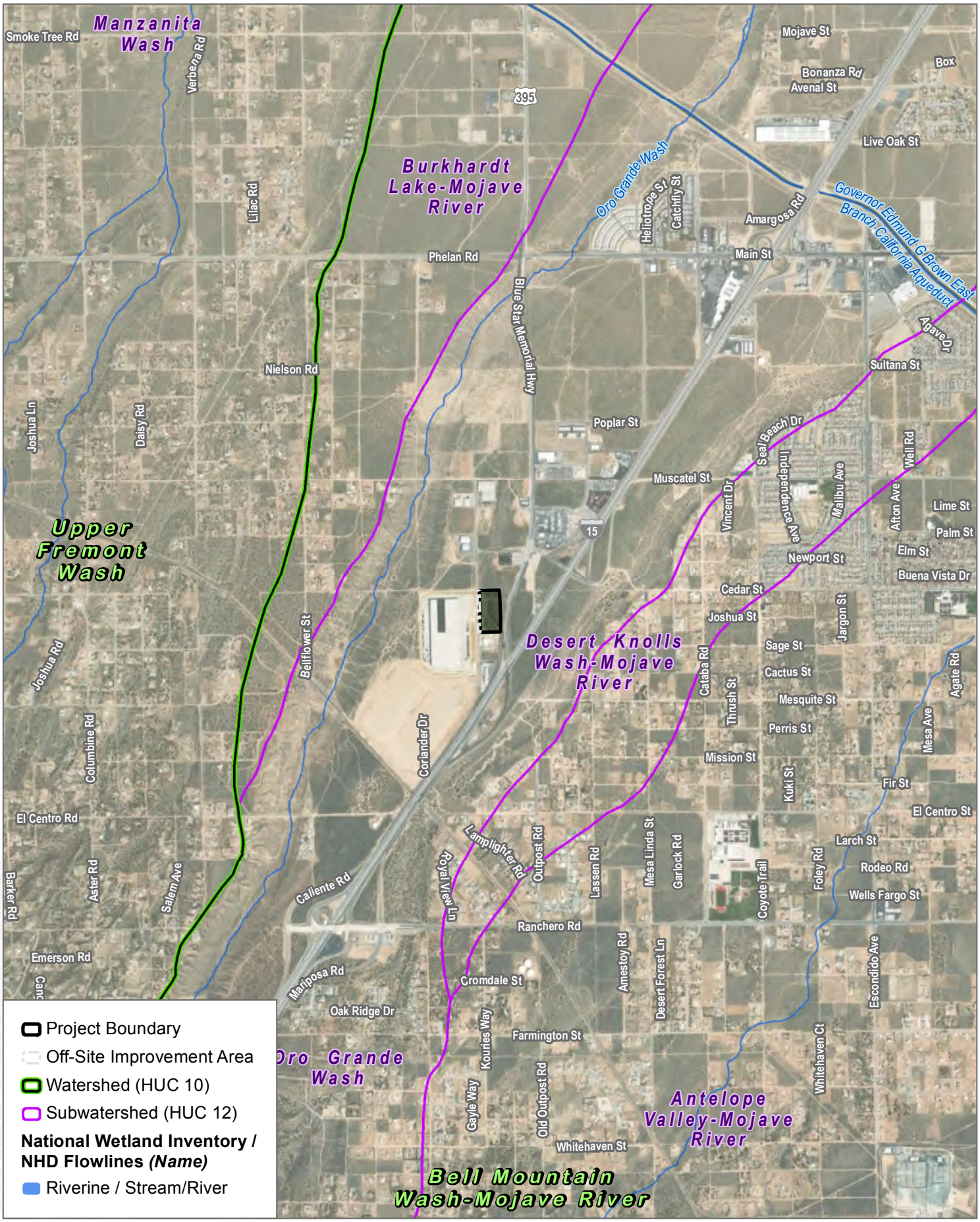
DUDEK

0 100 200 Feet

FIGURE 3

USDA Soils

HCC 1 Lot 5 Project



SOURCE: ESRI Imagery 2023; USFWS NWI 2021; FEMA 2021; USGS NHD 2020; Open Street Map 2019

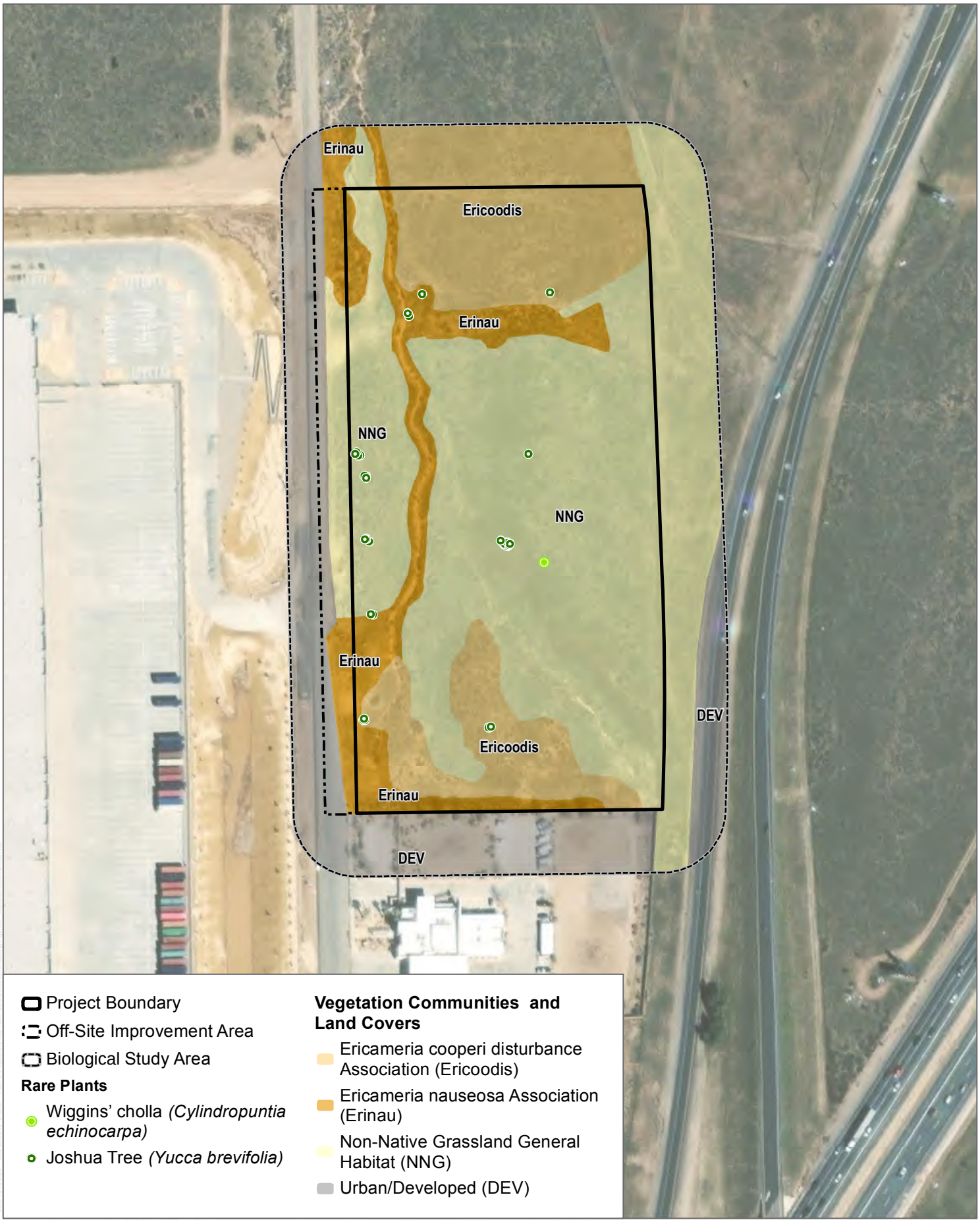
DUDEK

0 1,500 3,000 Feet

FIGURE 4

Hydrologic Setting

HCC 1 Lot 5 Project



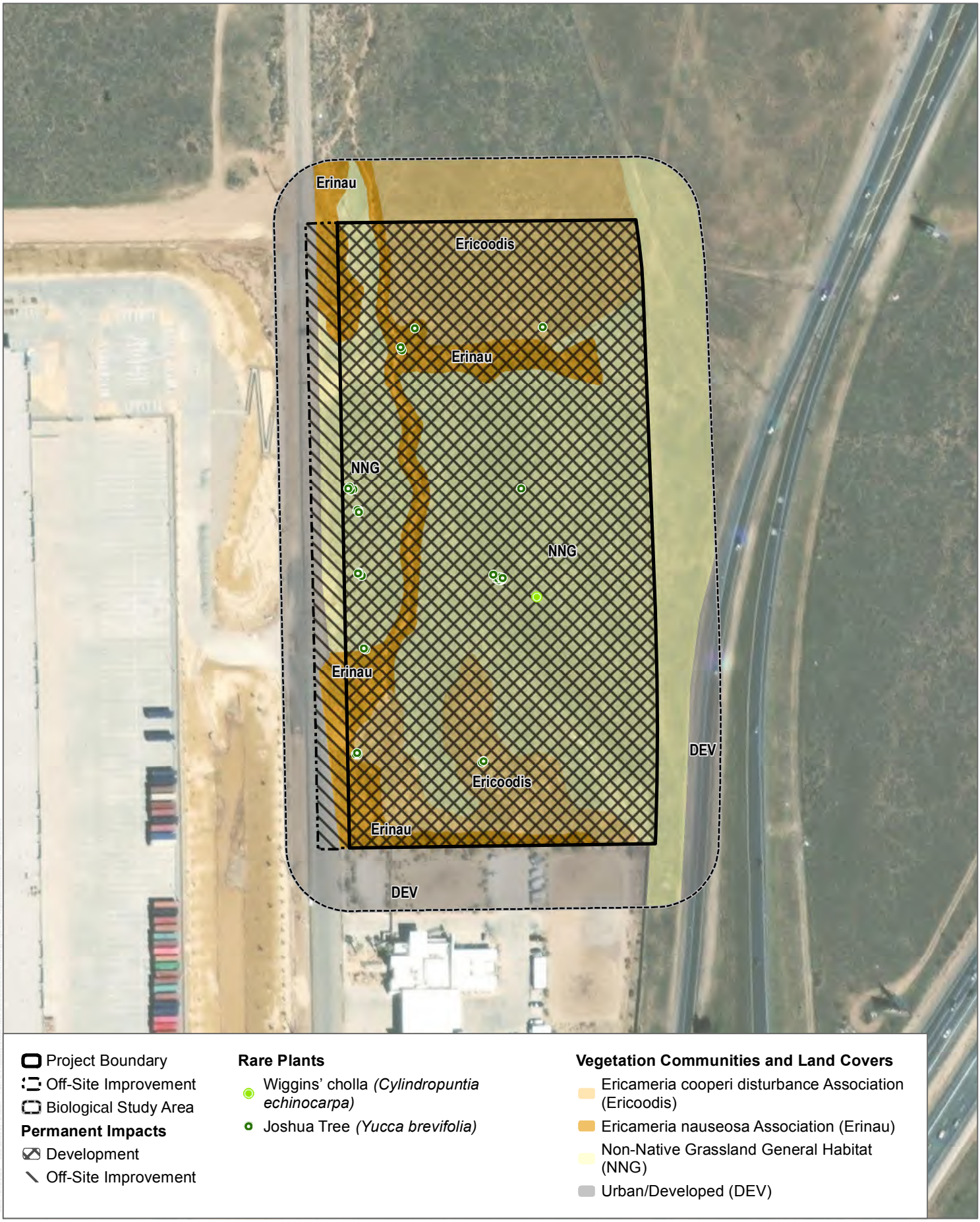
SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK 0 100 200 Feet

FIGURE 5

Biological Resources

HCC 1 Lot 5 Project



SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 100 200 Feet

FIGURE 6

Impacts to Biological Resources

HCC 1 Lot 5 Project

SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 75 150 Feet

FIGURE 7

Potential Jurisdictional Aquatic Resources

HCC 1 Lot 5 Project

Appendix B
Photo Documentation

Photo Number 1. Development to the west of the project site in the background with rubber rabbit brush vegetation community in foreground.

Photo Number 2. Tire tracks going through the project site.

Photo Number 3. North facing view of the non-native grassland intermixed with rubber rabbitbrush vegetation community.

Photo Number 4. Joshua tree located within the project boundaries.

Photo Number 1. Ephemeral drainage within project site.

Photo Number 2. South Facing. Representative photo of the western portion of the Project site with Hwy 395 in background

Photo Number 3. South facing. Representative photo of project site adjacent to Caliente Road.

Photo Number 4. West Facing. Wall separating Fire station directly south of the project site.

Appendix C

Mohave Ground Squirrel Protocol Survey Report

August 1, 2023

Anna Cassady
Dudek
605 Third Street
Encinitas, CA 92024
Via email: acassady@duek.com

Subject: Results of a Mohave Ground Squirrel Habitat Assessment for the Hesperia Commerce Center I (HCC I) Lot 5 Project, San Bernardino County, California

Dear Anna:

The purpose of this report is to document the results of a Mohave ground squirrel (*Xerospermophilus mohavensis*; MGS) Habitat Assessment conducted by Dipodomys Ecological Consulting, LLC (DEC) for the Hesperia Commerce Center I (HCC I) Lot 5 Project (project). Presented in this report are a description of the project, project location, MGS natural history, survey methodology, results of the MGS Habitat Assessment, and conclusions/recommendations.

Project Description and Location

Caliente 395, LLC, proposes to develop approximately 11 acres of desert land. The 11-acre project is located within the City of Hesperia in San Bernardino County, California. The project is bordered by Caliente Road on the west and US Highway 395 on the east, no existing roads are present to the north and south of the project. Surrounding land use includes undeveloped land to the north and east of the project and industrial/commercial development to the west and south (**Figures 1-2**). The project site consists primarily of disturbed rubber rabbitbrush scrub and ruderal grassland (**Figure 4**). The primary source of disturbance is roadside debris and past vehicular use or light grading. The project site is located on the U.S. Geological Survey (USGS) 7.5-minute Baldy Mesa topographic quadrangle map within Section 28, Township 4 North, and Range 5 West.

Mohave Ground Squirrel Natural History

Mohave ground squirrels are medium-sized (210-230mm, 85-130g), diurnal squirrels. Their dorsal pelage is light gray to cinnamon-brown, while their ventral side is creamy. Unlike round-tailed ground squirrels, which occur sympatrically in the southeast portion of their range, MGS have a short, flat tail that is light-colored on its underside, and have brown cheeks instead of white.

MGS inhabit a small geographic area in the western Mojave Desert. This species ranges from Palmdale in the southwest, the Lucerne Valley in the southeast, Olancha in the northwest, and the Avawatz Mountains in the northeast (Gustafson 1993). Although occurrences in the southern portion of their range are rare, occurrences have been documented on the California Natural Diversity Database (CNDDB) as recently as 2011 (Figure 3). Vegetation communities (as classified by the California Native Plant Society) typically associated with MGS include Mojave Creosote Scrub, Shadscale Scrub, Desert Saltbush Scrub, Desert Sink Scrub, and Joshua Tree Woodland. MGS feed primarily on the leaves and seeds of forbs and shrubs.

In the northern portion of their range, MGS have been found to feed on spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*) and saltbush (*Atriplex* sp.), especially in early spring when forbs are unavailable, during summer when forbs have dried out, and during drought conditions (Leitner and Leitner 1998). Recent studies have also indicated that MGS feed on the following forbs and shrubs: freckled milkvetch (*Astragalus lentiginosus*), Mojave lupine (*Lupinus odoratus*), buckwheat (*Eriogonum* sp.), white mallow (*Eremalche exilis*), fiddleneck (*Amsinckia tessellata*), Russian thistle (*Salsola tragus*), desert pincushion (*Chaenactis* sp.), Cryptantha (*Cryptantha pterocarya*), Coreopsis (*Leptosyne bigelovii*), Valley lessingia (*Lessingia glandulifera*), desert dandelion (*Malacothrix glabrata*), Phacelia (*Phacelia* sp.), wire lettuce (*Stephanomeria* sp.) Anderson's boxthorn (*Lycium andersonii*), spiny horsebrush (*Tetradimya spinosa*), and Joshua tree *(Yucca brevifolia*) (Leitner and Leitner 2017).

MGS have adapted to live in hot desert environments by limiting their activity aboveground through estivation and hibernation. The timing of emergence from hibernation varies by location: in the northern portion of their range male MGS emerge mid-March (Leitner and Leitner 1998); however, in the southern portion of their range, MGS may emerge as early as mid-January (Recht 1977). Throughout their active period, MGS store fat in preparation for estivation, which typically occurs between July and September, but may occur as early as April or May during drought conditions (Leitner et al. 1995). MGS reproduction is dependent on fall and winter rains and individuals may forgo breeding entirely if low rainfall (<80mm) results in reduced herbaceous plants (Leitner and Leitner 2017).

Throughout the range of MGS, they may co-occur with antelope ground squirrels, round-tailed ground squirrels, and California ground squirrels. MGS may be misidentified with round-tailed ground squirrels, but this is unlikely to occur with antelope grounds squirrels, because the latter species has white dorsal stripes that makes them resemble a chipmunk more than an MGS. California ground squirrels are notably larger and are not typically confused with MGS.

MGS are classified as threatened and are protected under the California Endangered Species Act. Primary threats to MGS include limited distribution, low abundance, and habitat loss from by converting suitable habitat to urban, suburban, agricultural, and military land uses (Gustafson 1993, Leitner and Leitner 2017).

Methods

Prior to carrying out the habitat assessment in the field, a nine-quadrangle query of the California Natural Diversity Database (CNDDB) was conducted to determine the locations of historical occurrences of MGS near the project site (**Figure 3**).

The MGS habitat assessment was conducted on July 14, 2023, by permitted biologists Karla Flores (MOU Principal Investigator, Scientific Collecting Permit SC-10572) and Karl Fairchild (MOU Principal Investigator, SCP S-182820007-18333-001). The habitat assessment consisted of walking meandering transects throughout the project footprint while recording vegetation communities and individual plants present and highlighting those plants that provide forage for MGS. The presence of burrows within the survey area was noted as an indication that the soil is friable and suitable for burrowing rodents.

Results

The results of the nine-quad CNDDB query yielded 12 MGS occurrences within the vicinity of the project. The most recent of these occurrences was recorded in 2011, approximately 12.3 miles north of the project across the California aqueduct. The closest MGS occurrence was documented in 2005, approximately 3.8 miles north of the survey area across the California aqueduct (**Figure 3**).

The survey area is disturbed (previously graded) and consists of low-quality MGS habitat comprised primarily of rubber rabbitbrush scrub (CA CDFW Code 35.310.00) and ruderal grassland (**Figure 4**). Perennial plants present onsite consist of rubber rabbitbrush (*Ericameria nauseosa*), Cooper's goldenbush (*Ericameria cooperi*), Mexican bladdersage (*Scutellaria mexicana*), California buckwheat (*Eriogonum fasciculatum*), cottonthorn (*Tetradymia stenolepis*), silver cholla (*Cylindropuntia echinocarpa*), Nevada joint-fir (*Ephedra nevadensis*), Joshua tree (*Yucca brevifolia*), and big sagebrush (*Artemisia tridentata*). Annuals present onsite included fiddleneck (*Amsinckia tessellata*), red-stemmed filaree (*Erodium cicutarium*), rattlesnake sandmat (*Euphorbia albomarginata*), annual bursage (*Ambrosia acanthicarpa*), desert wishbone bush (*Mirabilis laevis*), valley lessingia (*Lessingia glandulifera*), Russian thistle (*Salsola tragus*) short-podded mustard (*Hirschfeldia incana*), cheatgrass (*Bromus tectorum*), foxtail brome (*Bromus madritensis*) and common Mediterranean grass (*Schismus barbatus*). Soils consist of Hesperia loamy fine sand (0-2% slope). The project site is approximately 3,635 feet above mean sea level.

Weather conditions during the habitat assessment were generally sunny, with temperatures between 90°F and 95°F, wind speeds between 3 and 5mph, and 5% cloud cover. Wildlife observed during the survey included: black-tailed California ground squirrel (*Otospermophilus beecheyi*), jackrabbit (*Lepus californicus*), horned lark (*Eremophila alpestris*) and common raven (*Corvus corax*).

Conclusions and Recommendations

The Hesperia Commerce Center I Lot 5 project consists primarily of rubber rabbitbrush scrub and ruderal grassland, a vegetation community with few plants known to be used as forage material by MGS (CDFW 2019). Of the plants present, Joshua tree, fiddleneck, and red-stemmed filaree are utilized by MGS (Leitner 2022). The presence of these plants along with friable soils for burrowing indicate that some MGS habitat is present on site, albeit of very low quality, due to past disturbance. The site is also isolated from higher-quality habitat by Interstate 15 on the east and US Highway 395 and the California Aqueduct on the north.

The results of the CNDDB query showed that the most recent MGS occurrence was documented in 2011, approximately 12.3 miles north of the project. The closest MGS occurrence to the project was recorded in 2005 approximately 3.8 miles north of the project. Furthermore, DEC conducted protocol surveys in the vicinity in 2020 (HCC II), 2021 (HCC II Alignment, I-15 Industrial Park), 2022 (West of 395, I-15 Industrial Park, Poplar 18, Hesperia Gateway Project), and 2023 (Phelan 60) for a total of 9 grids and approximately 162,000 trap-hours. All these surveys yielded negative findings. Additionally, no MGS observations have been recorded in CNDDB south of the California Aqueduct since the completion of its construction.

Even though low-quality MGS habitat is present within the survey area, DEC concludes that it is highly unlikely for MGS to be present within the project footprint, given the large number of recent negative surveys in the area, and that the project is located south of the California Aqueduct, which presents a significant barrier to MGS dispersal. The closest MGS core population (Edwards Air Force Base core

population) is over 20 miles to the northwest, across the California Aqueduct. Based on this MGS Habitat Assessment, DEC concludes that MGS are unlikely to occur within the parcel and MGS protocol surveys are not necessary for this site. It should be noted, however, that an MGS Habitat Assessment alone is not sufficient to demonstrate MGS absence to CDFW. Only MGS live trapping protocol surveys demonstrate absence to CDFW and may be required despite the habitat assessment.

I hereby certify that the information in this report is true, and that it conforms to accepted biological standards. Please feel free to contact Karla Flores by phone at (619) 972-4319 or by email at kflores@dipodomysecological.com with any questions regarding this report.

Sincerely,

Karla L. Flores
Principal Biologist, CEO

Figures and Attachments
Figure 1-Project Location
Figure 2-Survey Area
Figure 3- Historical MGS Occurrences
Figure 4- Vegetation Communities

Attachment A- Representative Photographs

References

California Department of Fish and Wildlife. California Natural Diversity Database Rarefind. July14, 2023.

California Department of Fish and Wildlife. A Conservation Strategy for the Mohave Ground Squirrel. July 2019.

Gustafson, J.R. 1993. A Status Review of the Mohave Ground Squirrel (*Spermophilus mohavensis*). Department of Fish and Game. Nongame Bird and Mammal Report 93-9.

Leitner, P. and B.M. Leitner. 1998. Coso grazing exclosure monitoring study, Mohave ground squirrel study Coso Known Geothermal Resource Area, Major Findings 1988-1996. Final Report.

Leitner, P. and B.M. Leitner. 2017. Diet of the Mohave ground squirrel (*Xerospermophilus mohavensis*) in relation to season and rainfall. *Western North American Naturalist*, 77(1), 1-13.

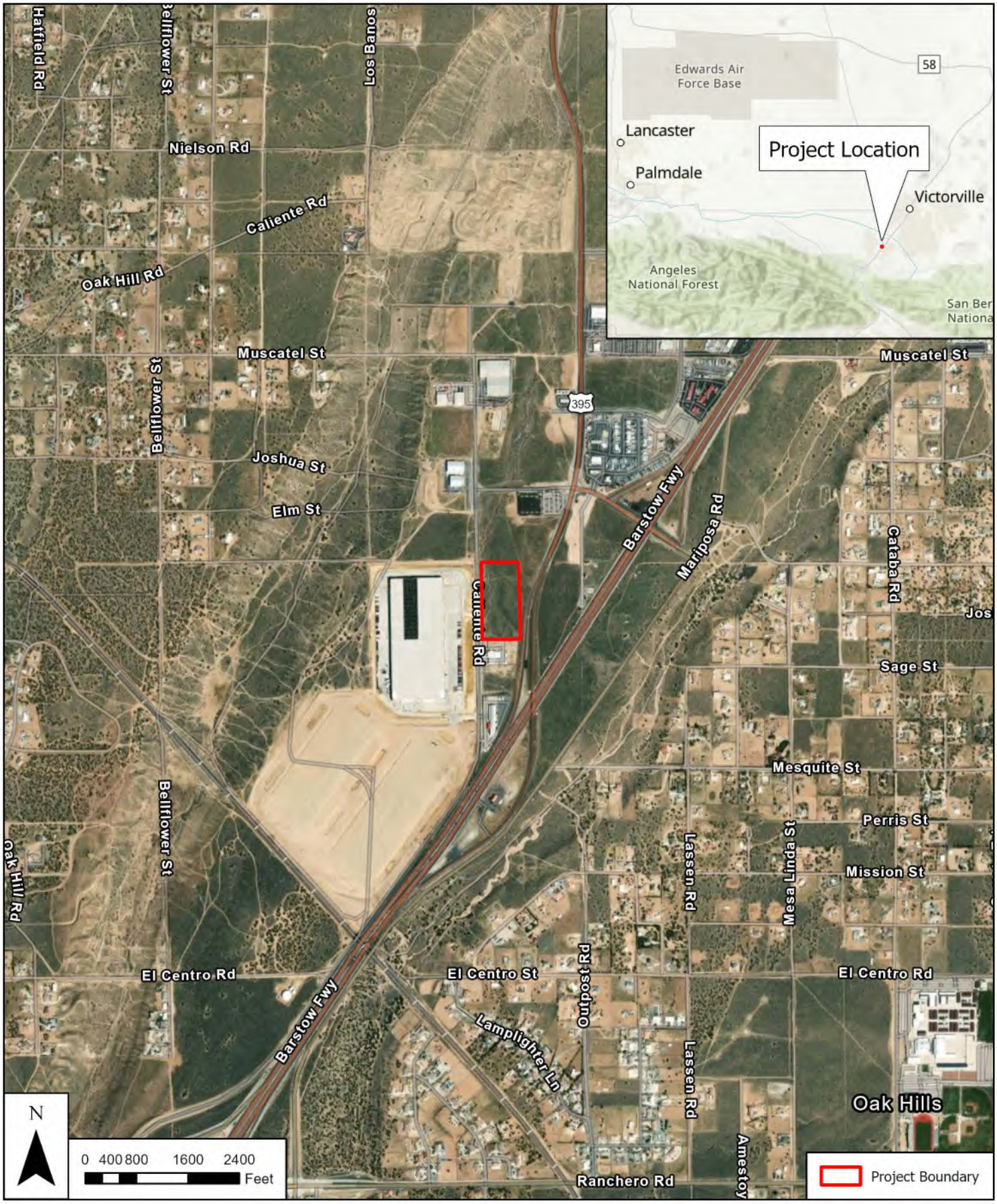
Leitner, P. and E.L. LaRue. 2014. Surveys for and Excavations of Suspected Mohave Ground Squirrel Burrows.

Leitner, P. 2021. Current Status of Mohave Ground Squirrel: An update covering the period 2013-2020. California Fish and Wildlife Special CESA Issue: 300-316.

Leitner, B. 2022. Primary Food Items Consumed by Mohave Ground Squirrels based on visual observations of MGS and microhistology and metabarcoding of fecal pellets from 1988-2021.

Recht, M.A. 1977. The biology of the Mohave ground squirrel, *Spermophilus mohavensis*. Ph.D. Dissertation, University of California, Los Angeles. 117 pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: http://websoilsurvey.sc.egov.usda.gov/. Accessed [07/14/2023].



SOURCE: ESRI

HCC I Lot 5 Project

Figure 1

Project Location

DIPODOMYS
ECOLOGICAL CONSULTING, LLC

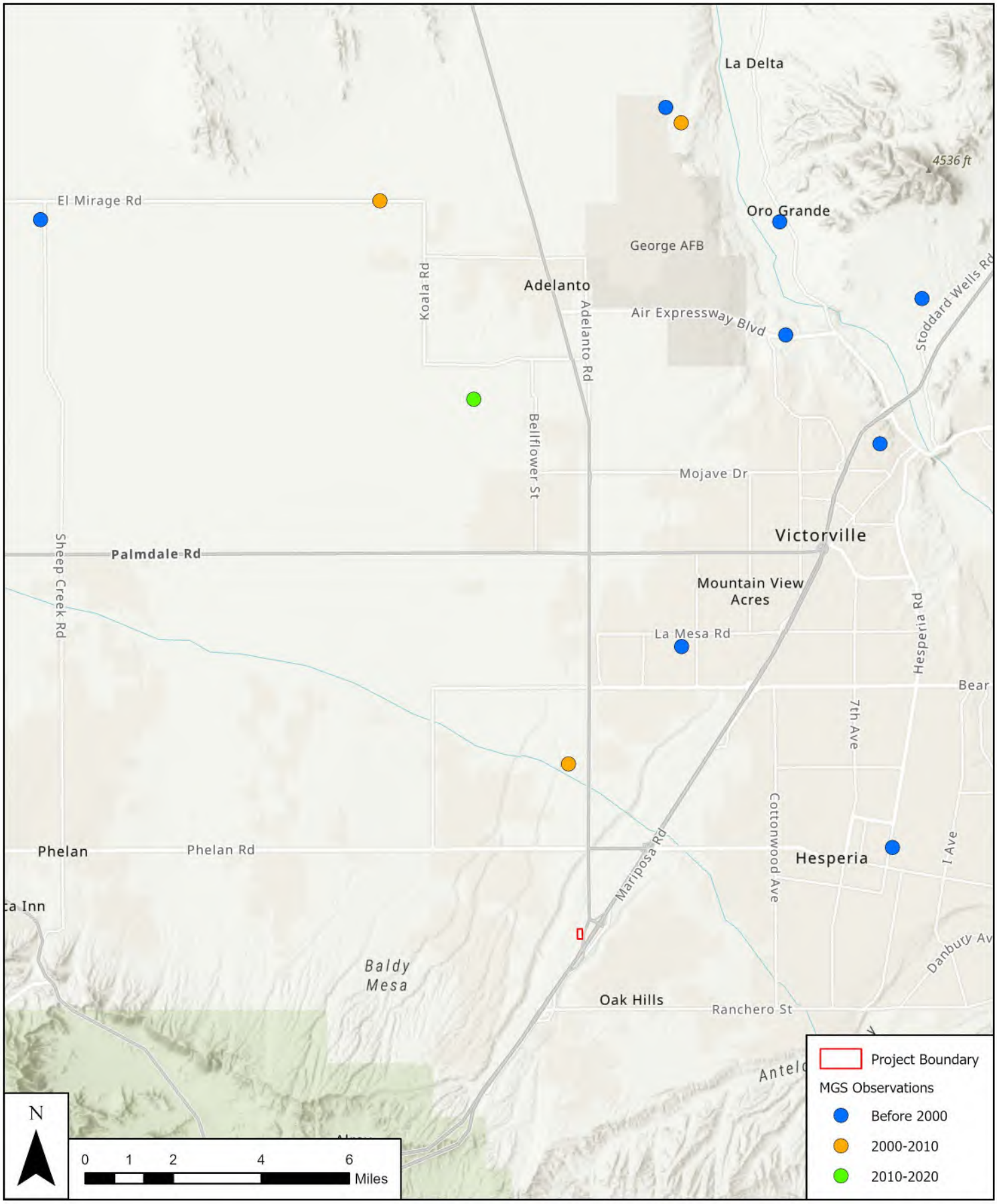
SOURCE: ESRI

DIPODOMYS
ECOLOGICAL CONSULTING, LLC

HCC I Lot 5 Project

Figure 2

Survey Area



SOURCE: ESRI

HCC I Lot 5 Project

Figure 3

Historical MGS Occurrences

DIPODOMYS ECOLOGICAL CONSULTING, LLC

SOURCE: ESRI

HCC I Lot 5 Project

DIPODOMYS
ECOLOGICAL CONSULTING, LLC

Figure 4

Vegetation Communities

Attachment A

Photo 1:Representative vegetation in northern portion of survey area, facing south.

Photo 2: Representative vegetation in the southern portion of the survey area, facing north.

Photo 3: Representative vegetation in southern portion of survey area facing west.

Photo 4: Representative vegetation in northern portion of survey area facing west.

Photo 5: Northern portion of drainage channel, facing north.

Photo 6: Southern portion of drainage channel, facing southeast.

Appendix D
Aquatic Resources Delineation Report

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

December 1, 2023 15480

Danielle Graham
Caliente 395 LLC
3 Corporate Place, Suite 230
Newport Beach, California 92660

Subject: **Aquatic Resources Delineation Report for the Hesperia Commerce Center I Lot 5 Project, Hesperia, San Bernardino County, California**

Dear Ms. Graham:

This Aquatic Resources Delineation Report is being provided for the Hesperia Commerce Center I Lot 5 Project (Project) to the U.S. Army Corps of Engineers (USACE) in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016). This report and supporting attachments provide the 20 items listed in the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016).

Item 1: Request for a Jurisdictional Determination

Attachment A contains the USACE Regulatory Program Approved Jurisdictional Determination Form and Request for a Jurisdictional Determination.

Item 2: Contact Information

Applicant	Caliente 395 LLC	**Agent**	Dudek
Contact Name	Danielle Graham	**Contact Name**	Eilleen Salas
Address	3 Corporate Plaza, Suite 230 Newport Beach, California 92660	**Address**	38 N Marengo Ave. Pasadena, California 91101
Phone	760-668-5597	**Phone**	626.314.0491
Fax	949-474-0125	**Fax**	None
Email	dgraham@covingtongroupinc.com	**Email**	esalas@dudek.com

Item 3: Site Access

The applicant or agent will accompany USACE staff to the review area if site visits are deemed necessary.

Item 4: Directions to the Review Area

The review area is in the City of Hesperia (City), which is located in San Bernardino County. The proposed project area is located west of U.S. Highway 395, east of Caliente Road, and south of Joshua Street, within the City (Figure 1). The project site is identified by Assessor's Parcel Number 303-935-108. Specifically, the Project is located in Sections 28, Township 4 North, and Range 5 West, as depicted on the U.S. Geological Survey Baldy Mesa, California 7.5-minute topographic quadrangle map.

Regional access to the review area is provided via the U.S. Highway 395, directly east of the review area. Local access to the review area is provided via Joshua Street to Caliente Road. Heading north on I-15, take exit 141 to U.S. Highway 395 North, continue on to Joshua Street towards Caliente Road for 0.5 miles and make a left on Caliente Road; the review area will be on the left, east of Caliente Road.

Item 5: Aquatic Resources Delineation Methods

The USACE Regulatory Program regulates activities pursuant to Section 404 of the Clean Water Act. USACE regulates "discharge of dredged or fill material" into "waters of the United States." The limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark" (OHWM), which is defined in 33 Code of Federal Regulations 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." The term "adjacent wetlands" (a subset of waters of the United States) is defined in 33 Code of Federal Regulations 328.3(c)(16) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

USACE defines wetlands as areas that contain hydrophytic vegetation, hydric soils, and wetland hydrology, in accordance with the procedures established in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). This aquatic resources delineation followed these two manuals, plus the additional information from A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b).

An Antecedent Precipitation Tool was used to document the climatological data around the delineation dates (see Attachment C). The review area received rainfall throughout the year in January, March, April, May and June 2023, and the conditions were considered "wetter than normal"; and the drought index is considered "moderate wetness."

Item 6: Aquatic Resources Narrative

The review area landscape drains water in the northern direction. One unvegetated ephemeral drainage with two tributaries stemming from the southern end (NWW-1a and NWW1b) are present within the review area. Both

tributaries receive water originating from the San Bernardino County Fire Station 305 located just south of the review area. This feature travels north outside of the review area for approximately 0.8 miles towards Hollister Road. It is then interrupted by a large disturbed and previously graded area just north of Hollister Road where the water dissipates as sheet flow across the graded landscape. This disturbed area prevents further connection to other traditional navigable waters. Therefore, no potential USACE jurisdictional aquatic resources were delineated as this feature does not meet the relatively permanent or significant nexus standard as a waters of the United states (Figure 3, Aquatic Resources Delineation). The review area did not contain any features that met the USACE three-parameter wetland criteria, and lacked riparian or hydrophytic vegetation; therefore, wetland determination data forms were not completed. A discussion of any potential USACE jurisdictional aquatic resources is described below.

Wetlands

No riparian or hydrophytic vegetation occurs within the review area, and no hydric soils are mapped within the review area; therefore, there are no wetlands within the review area.

Non-Wetland Waters

As described above, there are no non-wetland waters of the United States with the review area because these features do not meet the relatively permanent or significant nexus standard.

Non-USACE Jurisdictional Aquatics Resources

See Attachment D for a discussion of areas under the jurisdiction of the California Department of Fish and Wildlife and Regional Water Quality Control Board.

Item 7: Delineation Maps

All maps of delineated aquatic resources are provided in Attachment B.

Item 8: Dates of Fieldwork

Dudek biologists Eilleen Salas and Britney Schultz conducted an aquatic resources delineation for the review area in July 2023. Table 1 provides the survey date and conditions for the survey.

Table 1. Schedule of the Aquatic Resources Delineation

Date	Hours	Personnel	Conditions
7/20/2023	7:10 AM–9:30 AM	E. Salas, B. Schultz	79–86°F; 0% cloud cover; 1–5 mph wind

Item 9: Table of Aquatic Resources

No potential USACE jurisdictional aquatic resources (i.e., USACE regulated non-wetland waters or wetlands) were delineated within the review area; therefore, no table is provided. Attachment A includes the Approved Jurisdictional Determination Form, which describes that aquatic resources do not meet the relatively permanent or significant nexus standard.

Item 10: Review Area Description

The project area consists of Assessor's Parcel Number 303-935-108, and is located in the southwestern part of the City of Hesperia, within the Victor Valley region of San Bernardino County (see Figure 1). The Project site is located south of Joshua Street, east of Caliente Road, west of U.S. Highway 395. The review area is currently open, vacant desert lands with surface elevation ranging between approximately 3,700 and 3,720 feet above mean sea level. The review area is located in in Section 28, Township 4 North, and Range 5 West, as depicted on the U.S. Geological Survey Baldy Mesa, California 7.5-minute topographic quadrangle map (see Figure 2). The approximate center of the review area corresponds to 34.403685 latitude and -117.402907 longitude.

Within the review area, vegetation communities and land cover types include rubber rabbitbrush (*Ericameria nauseosa*) scrub, Cooper's goldenbush (*Ericameria cooperi*) disturbance, and non-native grasslands, and urban/developed lands. The review area is dominated by upland plant species, including rubber rabbitbrush, Cooper's goldenbush (*Ericameria cooperi* var. *cooperi*), California buckwheat (*Eriogonum fasciculatum* var. *polifolium*), as well as non-native grasses including ripgut brome (*Bromus diandrus*), compact brome (*Bromus madritensis*), cheatgrass (*Bromus tectorum*), and common Mediterranean grass (*Schismus barbatus*).

Item 11: Hydrology

The review area is within the Mojave Subbasin Hydrologic Unit Code (HUC) 8 (18090208), Bell Mountain Wash-Mojave River HUC 10 (1809020807), and Oro Grande Wash HUC 12 (180902080704) watersheds. The Mojave Subbasin HUC 8 watershed is approximately 4,618 square miles and consists of several waterbodies, waterways, dry washes, and valleys (UCD SIG 2021). The Mojave River is approximately 9.2 miles to the east. The Oro Grande Wash is a tributary to the Mojave River and is located approximately 0.5 miles west of the review area, and the California Aqueduct 2.5 miles to the northeast (USGS 2023). See Figure 4, Hydrologic Setting.

Item 12: Remote Sensing

No remote sensing was used for this aquatic resources delineation.

Item 13: Soils

According to the U.S. Department of Agriculture Natural Resource Conservation Service's Web Soil Survey (USDA 2023), the review area occurs within the San Bernardino County, Mojave River Area (CA671). The review area

consists of one soil type: Hesperia loamy fine sand (2% to 5% slopes). This soil type is shown in Figure 5, Soils, and presented in Table 2. There are no hydric soils within the review area (USDA 2023).

Table 2. Soils within the Review Area

Soil Code	Soil Name	Hydric Rating	Acreage
134	Hesperia loamy fine sand, 2% to 5% slopes	Not Hydric	12.1
		Total	12.1

Item 14: Site Location Maps

All maps are provided in Attachment B.

Item 15: Aquatic Features Spreadsheet

A copy of the ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet is not submitted with this report because there are no waters of the United States.

Item 16: Delineation Maps

All maps are provided in Attachment B.

Item 17: Photographs

Photos of the review area are provided in Attachment E.

Item 18: Data Forms

The OHWM datasheets are provided in Attachment F. Wetland determination data forms were not completed because the review area lacked hydrophytic vegetation.

Item 19: Methods

Jurisdictional boundaries were mapped in the field using an ESRI Collector mobile application with sub-meter accuracy and aerial imagery. Following the fieldwork, aquatic resources were digitized using ArcGIS.

Additionally, the delineation defined areas under the jurisdiction of the California Department of Fish and Wildlife pursuant to California Fish and Game Code Sections 1600–1603, and the Regional Water Quality Control Board pursuant to Clean Water Act Section 401 and the Porter–Cologne Water Quality Control Act. See Attachment D for

additional detail regarding California Department of Fish and Wildlife and Regional Water Quality Control Board jurisdictional areas.

Item 20: Digital Data

GIS data of the review area and potential aquatic resources regulated by USACE will be shared via a zip file.

Sincerely,

Eilleen Salas
Biologist

Atts.: A, USACE Regulatory Program Approved Jurisdictional Determination Form and Request for a Jurisdictional Determination
B, Figures
C, Antecedent Precipitation Tool
D, California Department of Fish and Wildlife and Regional Water Quality Control Board Jurisdictional Resources
E, Photographs
F, OHWM Datasheets

References Cited

RWQCB (State of California, Regional Water Quality Control Board, Lahontan Region). 2021. *Water Quality Control Plan for the Lahontan Region North and South Basins*. Effective March 31, 1995; last amended September 22, 2021. https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.html.

UCD SIG (University of California Davis Sustainability Indicators Group). 2021. "Oro Grande Wash." California Water Sustainability. Accessed July 2021. https://indicators.ucdavis.edu/cwip/huc/180902080704.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1*. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf.

USACE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf.

USACE. 2016. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. Sacramento, California: USFWS, Sacramento District. January 2016. https://www.spk.usace.army.mil/Portals/12/documents/regulatory/jd/minimum-standards/Minimum_Standards_for_Delineation_with_Template-final.pdf.

USDA (U.S. Department of Agriculture). 2023. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed October 202. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

USGS (U.S. Geological Survey). 2023. Flow Lines, Water Points, Watershed Boundaries for Hydrologic Units, Water Bodies (GIS data). National Hydrology Dataset. Last accessed October 2023. http://nhd.usgs.gov/.

Attachment A

USACE Regulatory Program Approved Jurisdictional Determination Form and Request for a Jurisdictional Determination

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: Just north of 8331 Caliente Road, Hesperia, CA 92344 (Street Address)
  City/Township/Parish: Hesperia County: San Bernardino State: CA
  Acreage of Parcel/Review Area for JD: 11
  Section: 28 Township: 4 N Range: 5 W
  Latitude (decimal degrees): 34.403586 N Longitude (decimal degrees): - 117.402907 W
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ☐ I currently own this property. ☐ I plan to purchase this property.
  ☑ I am an agent/consultant acting on behalf of the requestor.
  ☐ Other (please explain): _____.
- Reason for request: (check as many as applicable)
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ☑ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ☐ A Corps JD is required in order to obtain my local/state authorization.
  ☑ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ☐ I believe that the site may be comprised entirely of dry land.
  ☐ Other: _____
- Type of determination being requested:
  ☑ I am requesting an approved JD.
  ☐ I am requesting a preliminary JD.
  ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: _____ Date: _____

- Typed or printed name: Danielle Graham
  Company name: Covington Development Partners
  Address: 3 Corporate Plaza, Suite 230
  Newport Beach, California 92660
  Daytime phone no.: 760-668-5597
  Email address: dgraham@covingtongroupinc.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: California County/parish/borough: San Bernardino City: Hesperia
Center coordinates of site (lat/long in degree decimal format): Lat. 34.403586° **N**, Long. -117.402907° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Oro Grande Wash, Approximately 0.6 miles
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: NA
Name of watershed or Hydrologic Unit Code (HUC): Bell Mountain Wash-Mojave River (Hydrologic Unit Code (HUC) 1809020807).
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): July 20, 2023

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: N/A linear feet: width (ft) and/or acres.
      Wetlands: 0 acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Not Applicable.**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **The ephemeral unvegetated draiage within the Review Area lacks a significant nexus to a waters of the U.S**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: **NA**.

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": NA.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

---

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **The ephemeral unvegetated drainage is not a water of the U.S due to its lack of connection to a TNW or other waters of the U.S. This feature likely originates from the San Bernardino Fire Station located just south of the project site. This feature flows approximately 0.8 miles north, through a culvert and passes Hollister Road. It is disrupted by a disturbed and previously graded large area. The feature dissipates as sheetflow across this disturbed area and does not continue. Therefore, this feature does not meet the relatively permanent or significant nexus standard as a waters of the U.S.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

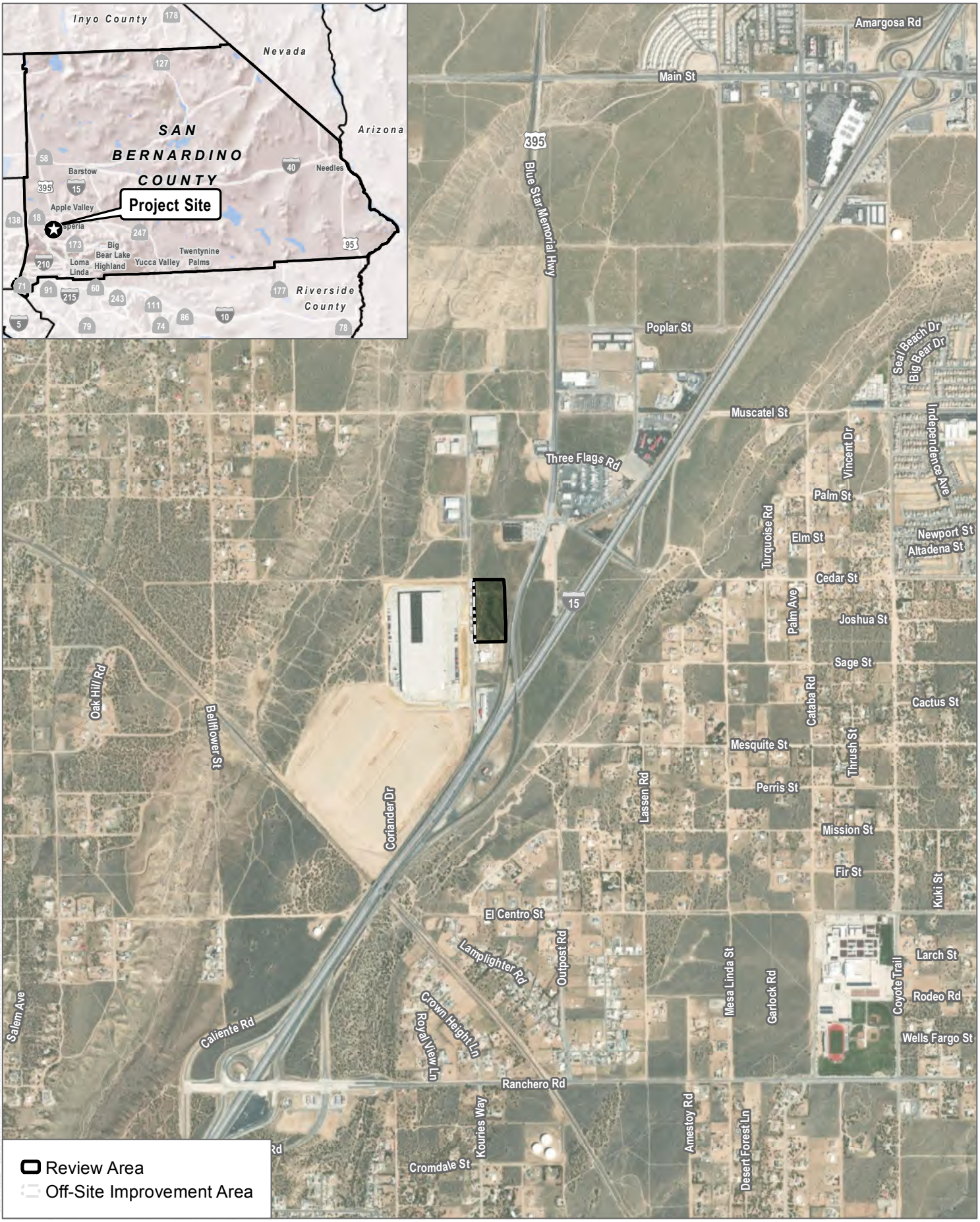
Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: .
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☒ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☐ Aerial (Name & Date): .
or ☒ Other (Name & Date):Appendix E. 7/20/23.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

Attachment B
Figures



SOURCE: ESRI Imagery 2023; Open Street Map 2019

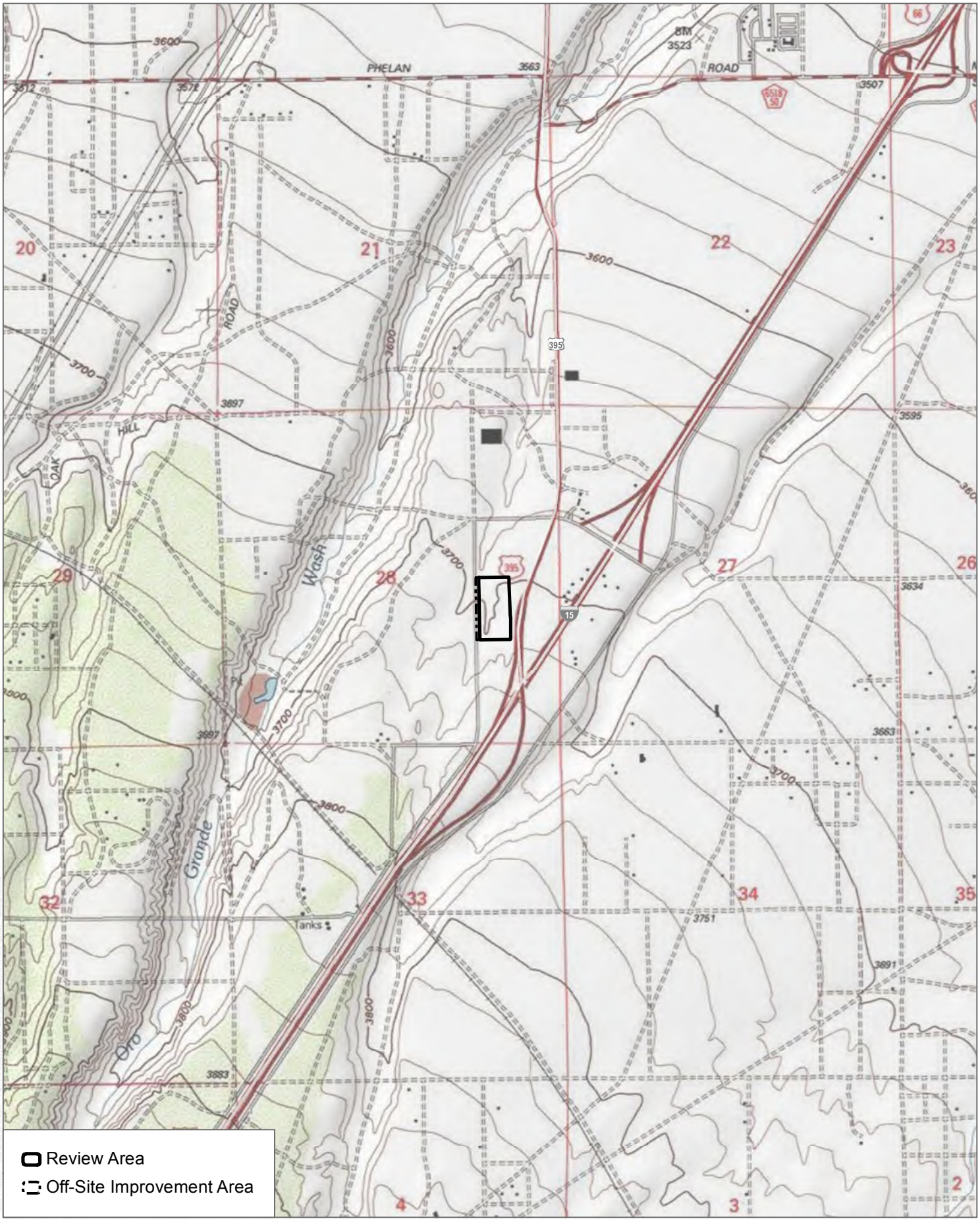
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

HCC 1 Lot 5 Project



SOURCE: USGS 7.5 minute topographic map, Baldy Mesa quadrangle
Township 4N / Rancg 5W / Section 28

DUDEK

0 1,000 2,000 Feet

FIGURE 2

USGS Topographic

HCC 1 Lot 5 Project

SOURCE: ESRI Imagery 2023; Open Street Map 2019

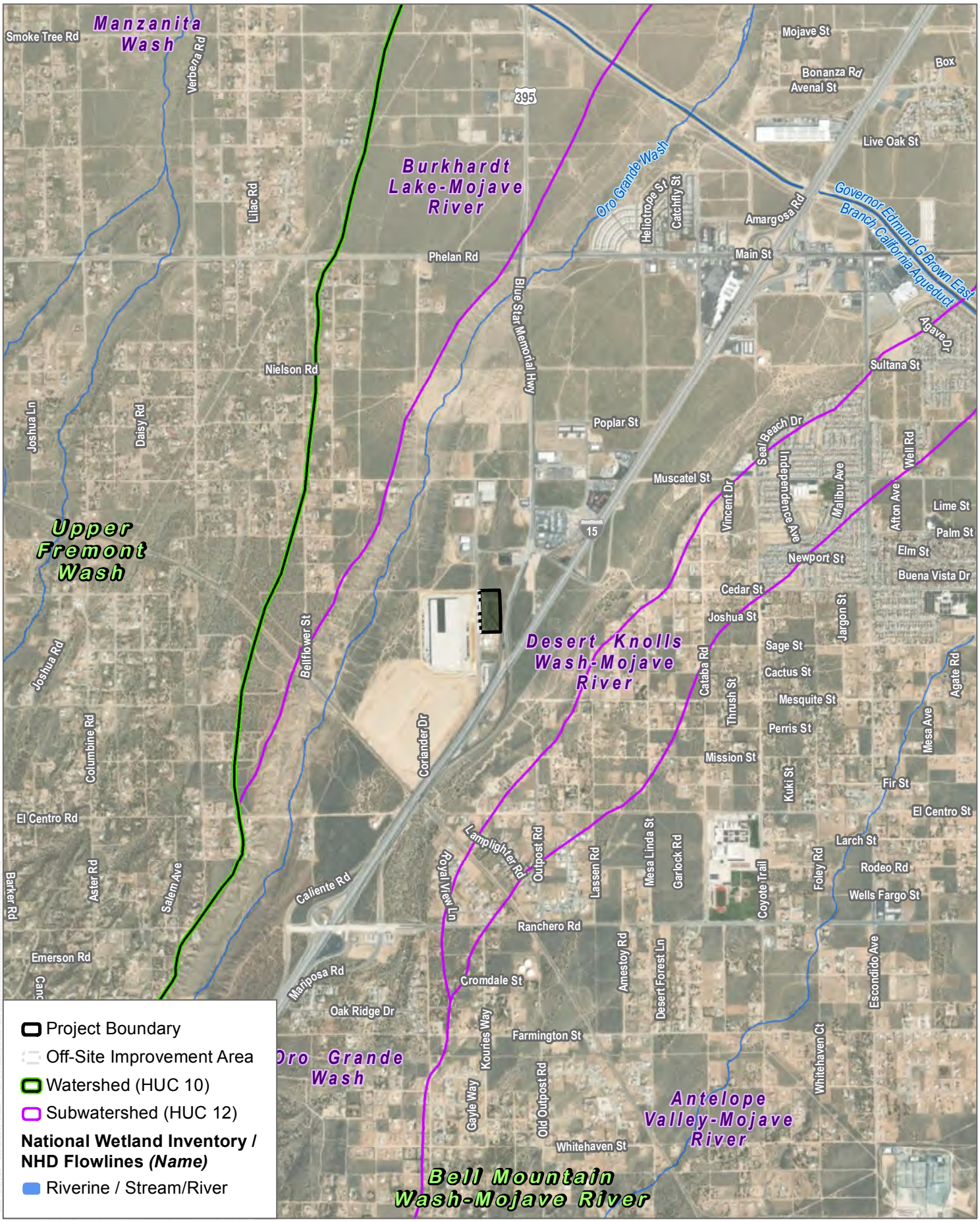
DUDEK

0 75 150 Feet

FIGURE 3

Aquatic Resources Delineation

HCC 1 Lot 5 Project



SOURCE: ESRI Imagery 2023; USFWS NWI 2021; FEMA 2021; USGS NHD 2020; Open Street Map 2019

FIGURE 4

Hydrologic Setting

HCC 1 Lot 5 Project

DUDEK

0 1,500 3,000 Feet

SOURCE: ESRI Imagery 2023; Open Street Map 2019, USDA SSURGO 2008

DUDEK

0 100 200 Feet

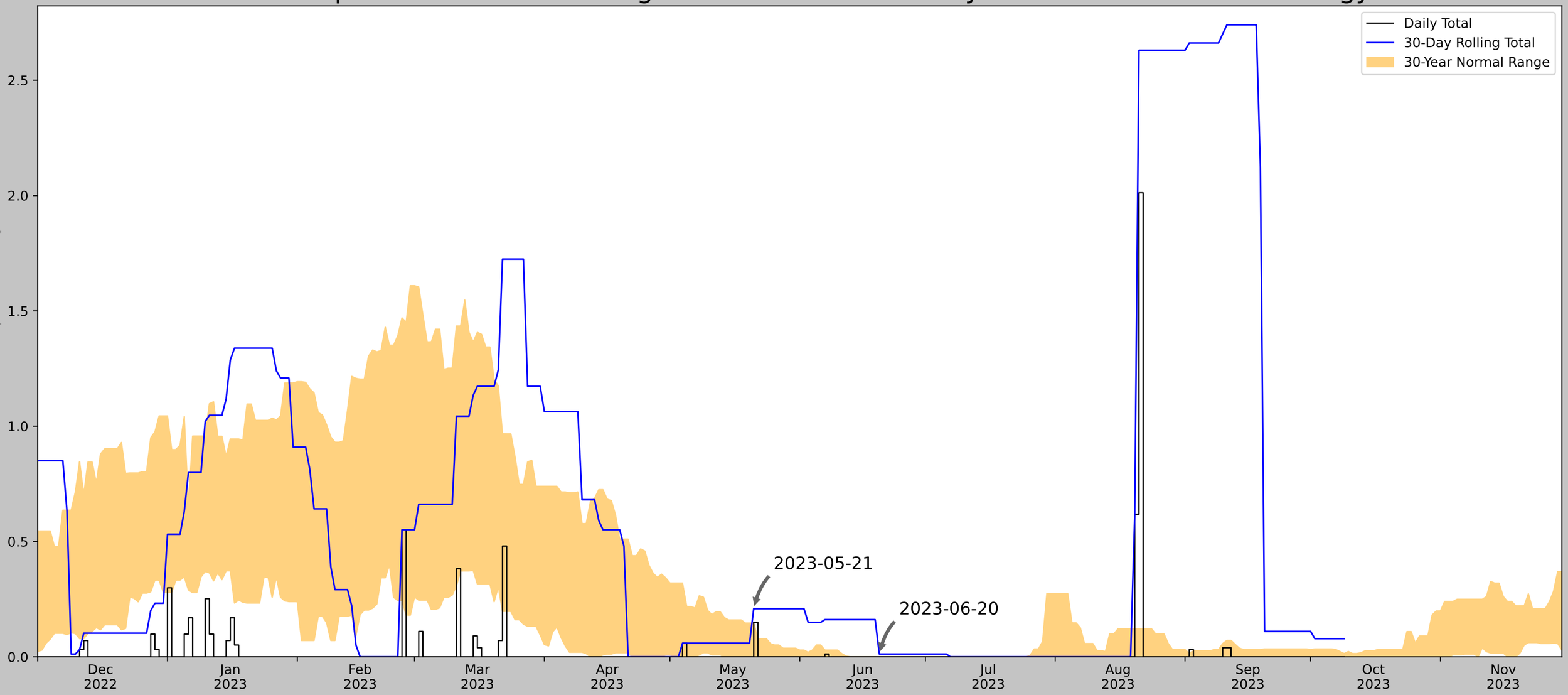
FIGURE 5

USDA Soils

HCC 1 Lot 5 Project

Attachment C
Antecedent Precipitation Tool

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	34.403617, -117.402634
Observation Date	2023-07-20
Elevation (ft)	3705.328
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-20	0.0	0.0	0.0	Normal	2	3	6
2023-06-20	0.0	0.0	0.011811	Wet	3	2	6
2023-05-21	0.0	0.146457	0.208661	Wet	3	1	3
Result							Wetter than Normal - 15

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
VICTORVILLE	34.5292, -117.2928	2879.921	10.697	825.407	13.644	11065	90
APPLE VALLEY 2.6 SSW	34.4957, -117.2353	2880.906	4.009	0.985	1.808	96	0
APPLE VALLEY 1.9 N	34.556, -117.2111	2935.039	5.005	55.118	2.528	1	0
APPLE VALLEY 2.6 SE	34.5043, -117.1808	2940.945	6.604	61.024	3.375	1	0
EL MIRAGE	34.5892, -117.6303	2950.131	19.647	70.21	10.221	188	0
LYTLE CREEK RS	34.2383, -117.4708	2729.987	22.517	149.934	13.509	2	0

Attachment D

California Department of Fish and Wildlife and
Regional Water Quality Control Board
Jurisdictional Resources

Methods

Dudek biologists Eilleen Salas and Britney Schultz conducted an aquatic resources delineation for the review area (Project Site plus a 100-foot buffer). Table 1 provides the survey date and conditions for the survey. Figure D-1, CDFW and RWQCB Aquatic Resources, depicting waters of the state, is provided at the end of this attachment.

Table 1. Schedule of the Jurisdictional Delineation

Date	Hours	Personnel	Conditions
7/20/2023	7:10 AM–9:30 AM	Eilleen Salas and Britney Schultz	79–86°F; 0% cloud cover; 1–5 mph wind

Jurisdictional boundaries were mapped in the field using an ESRI Collector mobile application with sub-meter accuracy and aerial imagery. Following the fieldwork, aquatic resources were digitized using ArcGIS.

The jurisdiction-specific methods used to delineate California Department of Fish and Wildlife (CDFW) and Regional Water Quality Control Board (RWQCB) jurisdiction are described below.

CDFW Jurisdiction Methods

The delineation defined areas under the jurisdiction of CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code. CDFW asserts jurisdiction over rivers, streams, lakes, and riparian vegetation associated with these features. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology). Additionally, waters of the state were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed.

RWQCB Jurisdiction Methods

The RWQCB typically asserts jurisdiction over the same areas as the U.S. Army Corps of Engineers (USACE). Guidance from USACE was used to determine the extent of resources regulated by the RWQCB under the Porter-Cologne Act and are described below. Non-wetland waters subject to RWQCB jurisdiction were delineated based on the presence of an ordinary high water mark, as determined by USACE guidance, or any other surface water regulated under the Porter-Cologne Act. Wetland waters subject to RWQCB jurisdiction were assessed based on methods described in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b) and the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2010) were reviewed to assist in determining the limits of non-wetland waters under the jurisdiction of the RWQCB. In 2019, the State Water Resources Control Board issued the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). These procedures define wetlands that encompass “the full range of wetland types commonly

recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands." Per the State Water Resources Control Board, "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

Results

There is 0.24 acres of RWQCB and/or CDFW jurisdictional resources in the review area and 0.23 acres within the project boundary (Table 2). Figure D-1 shows all aquatic resources identified within the review area. Of that total, 0.14 acres is non-wetland waters of the state under RWQCB/CDFW jurisdiction and 0.08 acres is of streambeds under only CDFW jurisdiction within the Project Site.

Table 2. California Department of Fish and Wildlife and Regional Water Quality Control Board Jurisdictional Resources

Waters of the State			
Jurisdiction	Type	Total Project Boundary (acres)	Total Review Area (acres)
RWQCB/CDFW			
	Non-wetland waters	0.14	0.16
CDFW			
	Streambed	0.08	0.08
Subtotal CDFW and RWQCB Jurisdictional Resources		*0.23*	*0.24*
Grand Total		**0.23**	**0.24**

CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board.

References

SWRCB (State Water Resources Control Board). 2021. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted April 2, 2019; revised April 6, 2021. https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf.

USACE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual.* ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf.

USACE. 2010. *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.* Wetland Regulatory Assistance Program, ERDC/CRREL TN-10-1. Prepared by K.E. Curtis and R.W. Lichvar. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center Cold Regions Research and Engineering Laboratory. July 2010.

SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 75 150 Feet

Attachment E
Photographs

Photo 1. Portion of NWW-1a south of the project boundaries.

Photo 2. Representative photo of NWW-1a with upland vegetation at banks.

Photo 3. Representative photo at OHWM Transect-1.

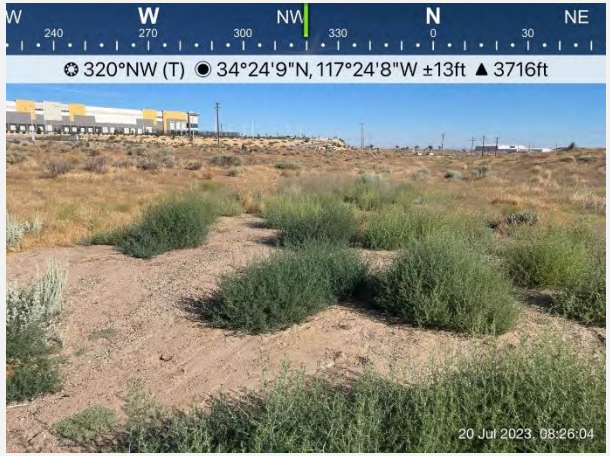


Photo 4. Representative photo of NWW-1b with no riparian vegetation.

Photo 5. Portion of NWW-1a north of the Project boundaries.

Photo 6. Portion of NWW-1b north of the Project boundaries. Please note the incorrect cardinal direction. Photo is facing north.

Attachment F
OHWM Datasheets

OHWM DATA SHEET

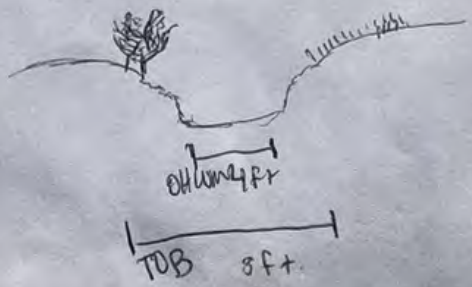
Project: HCC1 Lot 5 Date: 7/20/23 Feature ID: NWW-01a

Investigator(s): Eillian Salas & Britney Schultz Transect ID: T-01

Site Location: Hesperia, CA. west of the Hwy-395, east of Caliente Rd.

Feature Type: ☒ Ephemeral ☐ Intermittent ☐ Perennial ☐ Other

Transect (cross-section) drawing(s): View Facing: S



☐ Transect length
☑ OHWM width
☐ Channel depth
☑ Photo

OHWM Indicators (at OHWM; primary indicators indicated with *)

- ☐ Natural line impressed on the bank
- ☒ Shelving
- ☐ Changes in the character of soil (texture)*
- ☐ Destruction of terrestrial vegetation
- ☐ Presence of litter and debris
- ☐ Wracking
- ☐ Vegetation matted down, bent, or absent
- ☐ Sediment sorting
- ☐ Leaf litter disturbed or washed away
- ☐ Scour
- ☐ Deposition
- ☒ Bed and banks
- ☐ Water staining
- ☒ Change in plant community and/or cover*

☐ Break in Slope at OHWM*: ☐ Sharp (>60°) ☒ Moderate (30-60°) ☐ Gentle (<30°)

Soil Texture

	Clay/Silt	Sand	Gravel	Cobbles	Boulders
Above OHWM	Ø	10	10	Ø	Ø
Below OHWM	Ø	30	15	5	Ø

Total Vegetation Cover

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	Ø	10	90	5
Below OHWM	Ø	9	9	100

Veg Stage: ☐ Early (herbs & seedlings) ☐ Mid (herbs, shrubs, saplings) ☐ Late (herbs, shrubs, mature trees)

Upland Species:	*Bank Species:*	*Emergent Species:*
Art tri Ambrosia	Bromus rect	Ø

V-3; updated 01/10/2021

OHWM DATA SHEET

Condition/Disturbances/Anthropogenic Influences (e.g., erosion, grazing, culverts, etc.):

Culvert, trash, Road west adjacent to feature.

Hydrology

☐ Flowing water	Avg. depth:	Min. depth:
☐ Standing water	Temp:	Max. depth:
☐ Saturated		
☒ Dry		

Checklist of resources (if available):

☐ Aerial photography	☐ Vegetation maps	☐ GPS unit
☐ Remotely-sensed images	☐ Soil maps	☐ Stream gage data
☐ Topographic maps	☐ Rainfall/precipitation data	☐ Other studies:
☐ Geologic maps	☐ Existing delineation(s) for site	

Other drawings (aerial view), notes:

Other forms related to this feature: ☐ Yes ☐ No

☐ Terrace, fringe, or floodplain wetland (wetland datasheet)
☐ Low flow channel or other representative section (OHWM datasheet)

Appendix E
Plant Compendium

Vascular Species

Eudicots

ASTERACEAE – SUNFLOWER FAMILY

Ambrosia acanthicarpa – flatspine bur ragweed
Ericameria cooperi var. *cooperi* – Cooper's goldenbush
Ericameria nauseosa var. *hololeuca* – rubber rabbitbrush
Erigeron foliosus – leafy fleabane
Lessingia glandulifera var. *glandulifera* – valley lessingia
Stephanomeria pauciflora – brownplume wirelettuce

BORAGINACEAE – BORAGE FAMILY

Amsinckia tessellata – bristly fiddleneck

BRASSICACEAE – MUSTARD FAMILY

* *Hirschfeldia incana* – shortpod mustard

CACTACEAE – CACTUS FAMILY

Cylindropuntia echinocarpa – Wiggins' cholla

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Chenopodium album* – lambsquarters
* *Salsola tragus* – prickly Russian thistle

EUPHORBIACEAE – SPURGE FAMILY

Euphorbia albomarginata – whitemargin sandmat

FABACEAE – LEGUME FAMILY

Lupinus bicolor – miniature lupine

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutarium* – redstem stork's bill

LAMIACEAEMINT FAMILY

Scutellvaria mexicana – Mexican bladdersage

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

Mirabilis laevis var. *crassifolia* – California four o'clock

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum davidsonii – Davidson's buckwheat

Eriogonum fasciculatum var. *polifolium* – California buckwheat

SOLANACEAE – NIGHTSHADE FAMILY

Lycium cooperi – peach thorn

Gymnosperms and Gnetophytes

EPHEDRACEAE – EPHEDRA FAMILY

Ephedra viridis – Mormon tea

Monocots

AGAVACEAE – AGAVE FAMILY

Yucca brevifolia – Joshua tree

LILIACEAE – LILY FAMILY

Calochortus kennedyi – desert mariposa lily

POACEAE – GRASS FAMILY

* *Bromus diandrus* – ripgut brome
* *Bromus madritensis* – compact brome
* *Bromus tectorum* – cheatgrass
* *Festuca myuros* – rat-tail fescue
* *Schismus barbatus* – common Mediterranean grass

Stipa speciosa – desert needlegrass

* signifies introduced (non-native) species

Appendix F
Wildlife Compendium

Birds

Cormorants

PHALACROCORACIDAE – CORMORANTS

Nannopterum auritus – double-crested cormorant

Falcons

FALCONIDAE – CARACARAS AND FALCONS

Falco mexicanus – prairie falcon

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Elanus leucurus – white-tailed kite

Circus hudsonius – northern harrier

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Toxostoma redivivum – California thrasher

Wood Warblers and Allies

PARULIDAE – WOOD-WARBLERS

Setophaga petechia – yellow warbler

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Aimophila ruficeps canescens – Southern California rufous-crowned sparrow

Typical Warblers, Parrotbills, Wrentit

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

Reptiles

Snakes

VIPERIDAE – VIPERS

Crotalus ruber – red diamond rattlesnake

Appendix G

Special-Status Plants Potentially Occurring within the BSA

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Aphyllon validum ssp. *validum*	Rock Creek broomrape	None/None/1B.2	Chaparral, Pinyon and juniper woodland; Granitic/perennial herb (parasitic)/ May–Sep/3,375–6,560	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.
Asclepias nyctaginifolia	Mojave milkweed	None/None/2B.1	Mojavean desert scrub, Pinyon and juniper woodland/perennial herb/ May–June/2,870–5,575	**Low potential to occur**. The study area is within the species' known elevation range and contains suitable Mojavean desert scrub. However, the study area is outside of the species known geographic range, with almost all records occurring north of the Mojave National Preserve or west of the Colorado river (CCH 2023).
Astragalus lentiginosus var. *antonius*	San Antonio milk-vetch	None/None/1B.3	Lower montane coniferous forest, Upper montane coniferous forest/perennial herb/Apr–July/4,920–8,530	**Not expected to occur**. The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Botrychium ascendens	upswept moonwort	None/None/2B.3	Lower montane coniferous forest, Meadows and seeps; Mesic/perennial rhizomatous herb/(June)July–Aug/ 3,655–9,990	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.
Botrychium crenulatum	scalloped moonwort	None/None/2B.2	Bogs and fens, Lower montane coniferous forest, Marshes and swamps (freshwater), Meadows and seeps, Upper montane coniferous forest/perennial rhizomatous herb/June–Sep/ 4,160–10,760	**Not expected to occur**. The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Calochortus palmeri var. *palmeri*	Palmer's mariposa-lily	None/None/1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps; Mesic/ perennial bulbiferous herb/Apr–July/ 2,325–7,840	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	None/None/1B.2	Chaparral, Meadows and seeps, Pebble (Pavement) plain, Riparian woodland, Upper montane coniferous forest; Mesic/annual herb (hemiparasitic)/ May–Aug/4,265–7,840	**Not expected to occur**. The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Chorizanthe xanti var. *leucotheca*	white-bracted spineflower	None/None/1B.2	Coastal scrub (alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland; Gravelly (sometimes), Sandy (sometimes)/annual herb/Apr–June/ 985–3,935	**Low potential to occur**. The study area is within the species' known elevation range and contains suitable Mojavean desert scrub. However, the study area is outside of the species known geographic range, with most records occurring within or south of the San Gabriel and San Bernardino mountains (CCH 2023).
Claytonia peirsonii ssp. *peirsonii*	Peirson's spring beauty	None/None/1B.2	Subalpine coniferous forest, Upper montane coniferous forest; Granitic, Metamorphic, Scree, Talus/perennial herb/(Mar)May–June/4,950–9,005	**Not expected to occur**. The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Deinandra mohavensis	Mojave tarplant	None/SE/1B.3	Chaparral, Coastal scrub, Riparian scrub; Mesic/annual herb/(Jan–May)June–Oct/ 2,095–5,245	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.
Diplacus mohavensis	Mojave monkeyflower	None/None/1B.2	Joshua tree "woodland", Mojavean desert scrub; Gravelly (sometimes), Sandy (sometimes), Washes (often)/ annual herb/Apr–June/1,965–3,935	**Low potential to occur.** The study area is within the species' known elevation range and contains suitable Mojavean desert scrub. However, the nearest known record of the species occurs approximately 14 miles northwest of the study area, near the Mojave River (CDFW 2023). Also, all CCH records of this species are north and east of the project site (CCH 2023).

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Eremothera boothii ssp. *boothii*	Booth's evening-primrose	None/None/2B.3	Joshua tree "woodland", Pinyon and juniper woodland/annual herb/Apr–Sep/ 2,670–7,870	**Low potential to occur.** The study area is within the species' known elevation range, but does not contain suitable Joshua tree "woodland" or pinyon and juniper habitat. The nearest known record of the species occurs approximately 8.5 miles southwest of the study area, near the Mojave River (CDFW 2023).
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None/None/1A	Marshes and swamps (freshwater, coastal salt)/perennial rhizomatous herb/Aug–Oct/35–5,000	**Not expected to occur.** While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.
Heuchera parishii	Parish's alumroot	None/None/1B.3	Alpine boulder and rock field, Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; Carbonate (sometimes), Rocky/perennial rhizomatous herb/June–Aug/ 4,920–12,465	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Lilium parryi	lemon lily	None/None/1B.2	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest; Mesic/perennial bulbiferous herb/ July–Aug/4,000–9,005	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Linanthus concinnus	San Gabriel linanthus	None/None/1B.2	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest; Openings, Rocky/annual herb/Apr–July/ 4,985–9,185	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Loeflingia squarrosa var. *artemisiarum*	sagebrush loeflingia	None/None/2B.2	Desert dunes, Great Basin scrub, Sonoran desert scrub; Sandy/annual herb/Apr–May/2,295–5,295	**Not expected to occur.** While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lycium parishii	Parish's desert-thorn	None/None/2B.3	Coastal scrub, Sonoran desert scrub/perennial shrub/Mar–Apr/ 445–3,280	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Monardella australis ssp. *jokerstii*	Jokerst's monardella	None/None/1B.1	Chaparral, Lower montane coniferous forest; Alluvial Terraces, Scree, Slopes, Talus, Washes/perennial rhizomatous herb/July–Sep/4,425–5,740	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None/1B.2	Chaparral, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland/perennial stem/ Apr–June(Aug)/1,390–5,905	**Low potential to occur.** The study area is within the species' known elevation range and contains suitable Mojavean desert scrub. There are several records of this species less than 5 miles from the study area (CDFW 2023). However, this variety occurs within the San Gabriel and San Bernardino Mountains south of the project site and this conspicuous stem succulent was not observed during the July 2023 site visit.
Oreonana vestita	woolly mountain-parsley	None/None/1B.3	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; Gravelly (sometimes), Talus (sometimes)/ perennial herb/Mar–Sep/5,295–11,480	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Pediomelum castoreum	Beaver Dam breadroot	None/None/1B.2	Joshua tree "woodland", Mojavean desert scrub; Roadsides, Sandy, Washes/ perennial herb/Apr–May/2,000–5,000	**Low potential to occur.** The study area is within the species' known elevation range and contains suitable Mojavean desert scrub and sandy wash; however, the nearest known record of the species is approximately 9 miles southwest of the study area, near the Mojave River and other occurrences were recorded in Victorville and northeast of there (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Saltugilia latimeri	Latimer's woodland-gilia	None/None/1B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland; Granitic (often), Rocky (sometimes), Sandy (sometimes), Washes (sometimes)/annual herb/ Mar–June/1,310–6,230	**Low potential to occur**. The study area is within the species' known elevation range and contains suitable Mojavean desert scrub. However, the study area is outside of the species known geographic range, with most records occurring in the foothills of the San Bernardino mountains, or west around Morongo Valley (CCH 2023).
Schoenus nigricans	black bog-rush	None/None/2B.2	Marshes and swamps (often alkaline)/ perennial herb/Aug–Sep/490–6,560	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.
Scutellaria bolanderi ssp. *austromontana*	southern mountains skullcap	None/None/1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest; Mesic/ perennial rhizomatous herb/June–Aug/ 1,390–6,560	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.
Symphyotrichum defoliatum	San Bernardino aster	None/None/1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, Meadows and seeps, Valley and foothill grassland (vernally mesic); Streambanks/perennial rhizomatous herb/July–Nov/5–6,690	**Low potential to occur**. The study area is within the species' known elevation range and contains grassland habitat. However, the study area lacks vernally mesic areas consistent with the microhabitat needs of the species. The majority of records occur within and south of the San Gabriel and San Bernardino mountains (CCH 2023).
Symphyotrichum greatae	Greata's aster	None/None/1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland; Mesic/perennial rhizomatous herb/ June–Oct/985–6,590	**Not expected to occur**. While the study area is within the species' known elevation range, there is no suitable vegetation within the study area to support this species.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Yucca brevifolia	western Joshua tree	None/SC/CBR	Great Basin grassland, Great Basin scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland, Sonoran desert scrub, Valley and foothill grassland/perennial leaf succulent/ Apr–May/1,310–6,560	**Present.** This species was observed on site by Dudek biologists during 2023 biological surveys of the study area.

Determinations:

- Present: the species has been documented on the project site by a reliable source.
- High potential to occur: the species has not been documented on the project site but is known to recently occur in the vicinity and suitable habitat is present.
- Moderate potential to occur: the species has not been documented on the project site or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.
- Low potential to occur: the species has not been documented on the project site or in the vicinity, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
- Not expected to occur: the project site is outside the known geographic or elevational range of the species and/or the site does not contain suitable habitat for the species.

Status Legend:

FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate for listing
DL: Delisted
SE: State listed as endangered
ST: State listed as threatened
SC: State Candidate for listing
SR: State Rare
CRPR IA: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 18: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California but common elsewhere
CRPR 28: Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3: Review List: Plants about which more information is needed
CRPR 4: Watch List: Plants of limited distribution
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
CSR: Considered but Rejected

References

CCH (Consortium of California Herbaria). 2023. CCH2 Portal. Accessed August 2023 https://cch2.org/portal/index.php.

CDFW. 2023. RareFind, Version 5.0 (commercial subscription). California Natural Diversity Database (CNDDB).Sacramento, California: CDFW, Biogeographic Branch. Accessed August 2023.http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp.

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Appendix H

Special-Status Wildlife Potentially Occurring within the BSA

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering.	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands.	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Rana muscosa	mountain yellow-legged frog	FE/SE, WL	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral.	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Reptiles				
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. The BSA is outside the range of the species and does not contain chaparral, woodland, or riparian habitat that could support this species.
Charina umbratica	southern rubber boa	None/ST	Montane oak–conifer and mixed-conifer forests, montane chaparral, wet meadows; usually in vicinity of streams or wet meadows	Not expected to occur. The BSA is outside the range of the species and does not contain suitable habitat that could support this species.
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Gopherus agassizii	Mojave desert tortoise	FT/ST	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks,	Absent. Desert tortoise was not observed during the 2023 focused protocol survey and no suitable burrows were recorded.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides	Additionally, the BSA is also isolated by major roads including the Interstate 15 and Highway 395 to the east, the California Aqueduct to the north, and residential development to the west, making it unlikely that the species could be on site in the future. The nearest CNDDB occurrence is a 2000 record that is 0.8 miles southwest of the BSA (CDFW 2023); however, it should be noted that this is the only record of the species south of the California Aqueduct.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. Although the BSA contains some sandy soils, there is no suitable vegetation.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Aquila chrysaetos (nesting & wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to occur for nesting or wintering. The BSA contains a semi-open shrubland habitat. However, it is surrounded by development to the west and HWY 395 to the east. Additionally, there are no large trees or cliffs for this species to nest.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Asio otus (nesting)	long-eared owl	BCC/SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. The BSA contains flat, semi-open scrub habitat that could support this species. Although an official burrowing owl survey was not conducted, no suitable burrows were noted during the focused protocol desert tortoise survey. The nearest CNDDB occurrence is from 1989, located approximately 0.3 miles north, and presumed extant (CDFW 2023).
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur for nesting. The BSA does not contain suitable nesting habitat to support this species and lacks nearby agricultural areas for foraging. It may occur as a transient in the area during migration.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. The BSA does not contain suitable riparian vegetation that could support this species.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. The BSA does not contain suitable riparian vegetation that could support this species.
Haliaeetus leucocephalus (nesting & wintering)	bald eagle	FPD/FP, SE	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large	Not expected to occur. The BSA does not contain suitable riparian vegetation that could support this species.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			lakes; winters near large bodies of water in lowlands and mountains	
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not expected to occur. The BSA does not contain suitable riparian vegetation that could support this species.
Lanius ludovicianus (nesting)	loggerhead shrike	None/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	Present. The loggerhead shrike was observed during the Crotch bumble bee and DETO surveys.
Pandion haliaetus (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Piranga rubra (nesting)	summer tanager	None/SSC	Nests and forages in mature desert riparian habitats dominated by cottonwoods and willows	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Toxostoma lecontei	LeConte's thrasher	BCC/SSC	Nests and forages in desert wash, desert scrub, alkali desert scrub, desert succulent, and Joshua tree habitats; nests in spiny shrubs or cactus	Low potential to occur. The BSA contains marginal habitat for this species to occur. The nearest CNDDB occurrence is found 6 miles north east (CDFW 2023)
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Vireo vicinior (nesting)	gray vireo	None/SSC	Nests and forages in pinyon–juniper woodland, oak, and chamise and redshank chaparral	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Fishes				
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None/SSC	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system.	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Siphateles bicolor mohavensis	Mohave tui chub	FE/FP, SE	Lacustrine ponds or pools; 4 feet minimum water depth; freshwater flow; mineralized and alkaline environment; habitat for aquatic invertebrate prey and egg attachment substrate; Ruppia maritima preferred for egg attachment and thermal refuge in summer months.	Not expected to occur. The BSA does not have aquatic habitat that could support this species.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Not expected to roost, low potential to forage. The BSA lacks the rocky outcrops for roosting. It does contain shrubland vegetation that could support foraging efforts of this species.
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None/SSC	Desert wash, desert scrub, desert succulent scrub, and pinyon–juniper woodland	Not expected to occur. The BSA does not contain vegetation that could support this species.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Not expected to occur. The BSA lacks the mesic habitat with suitable vegetation to support this species.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Not expected to occur. The BSA lacks the roosting habitat with suitable vegetation to support this species; however, it may forage on site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Glaucomys oregonensis californicus	San Bernardino flying squirrel	None/SSC	Coniferous and deciduous forests, including riparian forests	Not expected to occur. The BSA does not contain suitable vegetation that could support this species.
Microtus californicus mohavensis	Mojave river vole	None/SSC	Wet, weedy, herbaceous areas along the Mojave River	Not expected to occur. The BSA lacks the suitable habitat needed for this species to occur.
Ovis canadensis nelsoni	Nelson's bighorn sheep	None/FP	Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes, and alluvial fans	Not expected to occur. The BSA lacks the habitat and topography needed for this species to occur.
Spermophilus (Xerospermophilus) mohavensis	Mohave ground squirrel	None/ST	Desert scrub habitats including those dominated by creosote bush and burrobush, desert sink scrub, and desert saltbush scrub	Absent. Although there is some marginal habitat within the BSA, this species was not observed during the 2023 Mohave ground squirrel protocol surveys. Additionally, the BSA is isolated by the Interstate 15 and Highway 395 to the east, the California Aqueduct to the north, and residential development to the west, making it unlikely that the species could occupy the site in the future.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. The BSA does not contain suitable vegetation to support this species. Additionally, no suitable burrows were observed during the 2023 biological surveys.
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	Absent. Suitable habitat is present including flowering plant species such as California buckwheat. However, this species was not observed during the Crotch bumble bee surveys.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Euphydryas editha quino	Quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta*, *Antirrhinum coulterianum*, and *Plantago patagonica* (Silverado Occurrence Complex).	Not expected to occur. The study area is outside of the range of the species and none of the host plants for this species were observed during the 2021 and 2022 biological surveys. Additionally, the BSA does not contain clay soils.

Status Designations
Federal
FC: Federal candidate for listing
FDL: Federally delisted
FE: Federally listed as endangered
FT: Federally listed as threatened
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
State
SSC: California Species of Special Concern
FP: California Fully Protected species
WL: California Watch List species
SE: State listed as endangered
ST: State listed as threatened

Notes: BSA = biological study area; CNDDB = California Natural Diversity Database.

[1] Section 4000 of the California Fish and Game Code defines "kit fox" as a fur-bearing animal.

References

CDFW (California Department of Fish and Wildlife). 2022. RareFind 5, Version 5.2.14. California Natural Diversity Database. Sacramento, California: CDFW, Biogeographic Data Branch. Accessed February 2022. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

Center for Biological Diversity. 2013. *Before the California Fish and Game Commission, A Petition to List the Desert Kit Fox* (Vulpes macrotis arsipus) *as Threatened under the California Endangered Species Act*. March 10, 2013. https://www.biologicaldiversity.org/species/mammals/desert_kit_fox/pdfs/Desert-kit-fox-CESA-petition-3-10-13.pdf.

Appendix I

Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan

Joshua Tree Preservation, Protection, and Relocation Plan, and Desert Native Plant Relocation Plan

HCC 1 Lot 5 Project

OCTOBER 2023

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CDFW	California Department of Fish and Wildlife
HCC	Hesperia Commerce Center
HMC	Hesperia Municipal Code
ISA	International Society of Arboriculture
ITP	Incidental Take Permit
WJTCA	Western Joshua Tree Conservation Act

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1 Introduction

The purpose of this Joshua Tree Preservation, Protection, and Relocation Plan (Joshua Tree Plan) for the Hesperia Commerce Center (HCC) 1 Lot 5 Project (Project) is to provide detailed specifications to meet the requirements of Chapter 16.24 of the City of Hesperia (City) Municipal Code (HMC) and the California Department of Fish and Wildlife (CDFW) requirements to protect, preserve, and mitigate impacts to western Joshua trees (*Yucca brevifolia*).

On September 22, 2020, the California Fish and Game Commission granted approval of the petition for candidacy of the western Joshua tree, marking the effective commencement of this status on October 9, 2020 (CDFW 2020). The acceptance of candidacy under the California Endangered Species Act endows the western Joshua tree with equivalent protection to that afforded to threatened or endangered species. This protection is sustained during the period in which the California Fish and Game Commission conducts an evaluation to determine whether formal listing as threatened or endangered under the California Endangered Species Act is warranted.

Within this assessment interval, the removal or disturbance of western Joshua trees necessitates the acquisition of a Section 2081 Incidental Take Permit (ITP) issued by CDFW. Until recently, obtaining a Section 2081 ITP represented the principal avenue for obtaining permissions to undertake activities impacting western Joshua trees. A significant development occurred with the enactment of the Western Joshua Tree Conservation Act (WJTCA) in July 2023, which introduced an additional permitting mechanism for activities involving western Joshua trees.

Under the WJTCA, the relocation of western Joshua trees is regarded as a minimization measure, in contrast to the previous Section 2081 ITP process, in which relocation was viewed as an experimental approach. Specifically, the WJTCA outlines the following provisions related to relocation:

> 4(A) The department [CDFW] may require the permittee to relocate one or more of the western Joshua trees. The permittee shall implement measures to assist the survival of relocated trees and shall comply with any other reasonable measures required by the department to facilitate the successful relocation and survival of the western Joshua trees, including, but not limited to:
>
> (i) A requirement that the relocated western Joshua tree is placed in a location and with proper orientation to improve its survival.
>
> (ii) A requirement that western Joshua trees are relocated between October and March.
>
> (iii) Adherence to performance criteria to ensure that relocated trees have at least an 80-percent survivability rate.
>
> (iv) A requirement that a desert native plant specialist be on site to oversee relocation.
>
> 4(B) The department [CDFW] may limit relocation to certain size classes of trees

Furthermore, Chapter 16.24 of the HMC states that "it is in the public interest to preserve and protect specified desert native plants and provide for the conservation and wise use of our desert resources, through regulation, guidelines and enforcement that manage the removal or harvesting of such plants. They are also necessary to augment and coordinate with the State Department of Food and Agriculture in its efforts to implement and enforce the Desert Native Plant Act." Furthermore, the City's Protected Plants Policy (HMC 16.24) states the following for Tentative Tract, non-single-family residential (commercial, industrial, apartments):

- A protected plant plan shall be prepared by a certified arborist or registered botanist.
- An application and fee shall be completed and paid to the City.
- Healthy, transplantable plants shall be relocated on site or may be placed in an adoption program.

As such, this Joshua Tree Plan addresses the requirements of the City's Protected Plants Policy and the proposed mitigation required by CDFW under the WJTCA, and provides details regarding the Project site's western Joshua trees, detailed specifications for the protection of trees to be preserved on site, and relocation/salvage requirements for those trees requiring removal and relocation.

1.1 Applicability

The provisions of this Joshua Tree Plan apply toward the protection and removal of western Joshua trees located within the City of Hesperia, California, as defined in the City's Protected Plants Policy (HMC 16.24).

1.2 Project Location

The approximately 12.14-acre Project area, including the 11.01-acre Project site and 1.13-acre off-site improvement area, is located in the City of Hesperia, which is located in San Bernardino County (County; Figure 1, Project Location). The Project site is generally bounded to the north by vacant land, to the south by County Fire Station 305 and vacant land, to the east by U.S. Highway 395, and to the west by Caliente Road and Building 1 of the HCC, now occupied by Modway furniture wholesaler. The Project site is identified by Assessor's Parcel Number 303-935-108 (Figure 2, Project Vicinity). Specifically, the Project is located in Sections 28, Township 4 North, and Range 5 West, as depicted on the U.S. Geological Survey Baldy Mesa, California 7.5-minute topographic quadrangle map.

1.3 Project Characteristics

The Project would include the construction of an industrial warehouse building and associated improvements on 11.01 acres of land. The proposed Project would provide approximately 150,000 square feet of industrial/ warehouse space and include associated improvements, such as loading docks, tractor-trailer stalls, passenger vehicle parking spaces, and landscape area (Figure 3, Proposed Site Plan).

The Project would include off-site improvements along Caliente Road, including frontage landscaping. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse building and throughout the Project site.

To account for the maximum potential disturbance associated with all on-site and off-site improvements, a maximum disturbance footprint has been developed. Areas in which lateral utility connections may occur or where other roadway and pedestrian improvements may be necessary are also depicted. Together, these off-site improvements are referred to as the "off-site street and utility improvements."

1.4 Site Characteristics

The Project is composed of an approximately 11-acre Project site and approximately 1.13 acres of off-site improvements. The Project site is generally bounded to the north by vacant land, to the south by County Fire Station 305 and vacant land, to the east by U.S. Highway 395, and to the west by Caliente Road and Building 1 of the HCC, now occupied by Modway furniture wholesaler.

Ground surface cover consists of moderate native brush and shrub growth and western Joshua trees scattered throughout the site. Land uses surrounding the Project site primarily consist of vacant land, along with some scattered commercial, light industrial, and utility uses. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North:** Vacant land
- **East:** Vacant land; U.S. Highway 395; and scattered commercial, light industrial, and commercial uses
- **South:** County Fire Station 305 and vacant land
- **West:** Caliente Road and Building 1 of the HCC, now occupied by Modway furniture wholesaler

In the broader Project vicinity, development includes commercial uses, trucking-related uses (i.e., truck stops), lodging accommodations, big-box retail developments, and residential subdivisions.

Climate

The Project site is located in the Victor Valley/High Desert region in western San Bernardino County. Average annual temperatures range from 44°F to 81°F. The average annual precipitation is 6.72 inches (WRCC 2022). Periods of extended drought are common throughout the region.

Topography and Soils

The Project site's surface elevation ranges between approximately 3,700 and 3,720 feet above mean sea level. The Project site and immediate surrounding area is relatively flat, with a slight slope from the south to the north.

According to the U.S. Department of Agriculture Natural Resources Conservation Service's Web Soil Survey (USDA 2023), the Project site occurs within the San Bernardino County, Mojave River Area (CA671). It consists of one soil type, Hesperia loamy fine sand (2% to 5% slopes).

Vegetation

The Project site is primarily composed of non-native grassland, but also includes rubber rabbitbrush (*Ericameria nauseosa* var. *hololeuca*) scrub, disturbed Cooper's goldenbush (*Ericameria cooperi*) scrub, and urban/developed lands. Dominant plants include rubber rabbitbrush, Cooper's goldenbush, California buckwheat

(*Eriogonum fasciculatum* var. *polifolium*), peach thorn (*Lycium cooperi*), and Mexican bladdersage (*Scutellaria mexicana*). The herbaceous layer is primarily dominated by non-native annuals and grasses such as red-stemmed stork's bill (*Erodium cicutarium*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), cheatgrass (*Bromus tectorum*), and desert needlegrass (*Stipa speciosa*).

2 Policy and Permits

2.1 City of Hesperia

2.1.1 City Policy

Per the City's Protected Plants Policy (HMC 16.24), the City seeks to preserve the natural environment in the City while respecting the lawful development of private property. As such, native protected plants create a dilemma because of their high public appeal coupled with very limited transplant success and potential safety concerns for the public. Furthermore, HMC 16.24 states the following regarding Tentative Tract, non-single-family residential (commercial, industrial, apartments):

- A protected plant plan shall be prepared by a certified arborist or registered botanist.
- An application and fee shall be completed and paid to the City.
- Healthy, transplantable plants shall be relocated on site or may be placed in an adoption program.

In addition to the requirements previously stated, HMC 16.24 discusses approval of an adoption program, as follows:

1. Approved Adoption Program

   To qualify as an approved adoption program the developer shall provide a letter on company letterhead, describing the program and the community notification process. The program shall identify the following, as a minimum:

   1. A public notice process which may include publication in local newspapers, radio advertisement, hand distributed fliers, and other noticing techniques. Noticing must occur over a period of not less than three weeks.
   2. The location where the trees may be viewed by the public and a clearly identified period of at least two weeks (including weekends) when trees/plants are available for adoption.
   3. The person that will be available on-site to assist those adopting trees to find the actual trees/plants for removal. An on-site or cell phone number for that person is required.
   4. A note that a copy of the City Joshua Tree Transplanting Guidelines will be provided to each adopter.
   5. A log showing the name, address, and phone number of each adopter and the number and type of trees/plants they received.

Note: At least 50% of the transplantable trees and plants shall be adopted or the remaining number below 50% shall be purchased at $350 per transplantable tree. Purchased trees must be recycled at Advance Disposal.

2.1.2 City Permits

Per the City's Protected Plants Policy (HMC 16.24), a western Joshua tree relocation and removal application must be completed and a fee paid to the City prior to initiation of removal and/or relocation of western Joshua trees. HMC Section 16.24.040, Removal Permit, states the following:

1. A removal permit shall be required for the removal of any native tree or plant that is subject to the provisions of this chapter.
2. A land use application, a building permit and all other development permits (e.g., grading, mobile home set downs, etc.), shall consider and include a review of any proposed native tree or plant removal. Any approved land use application and/or development permit shall be a permit for the removal of native plants, if such land use application or development permit specifically reviews and approves such removals. Such reviews shall consider and require compliance with the provisions of this chapter.
3. The reviewing authority may require certification from an appropriate tree expert or desert native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this article.
4. Removals of native trees or plants that are not requested in conjunction with a land use application or development permit may be accomplished only under a permit issued by either the county agricultural commission or the fire marshal, subject to the provisions of this article.
5. The building official shall require a preconstruction inspection prior to approval of development permits.
6. The duration of a plant or tree removal permit when issued in conjunction with a land use application and/or a development permit shall be coterminous with the duration of the associated application or permit, unless otherwise specified. The reviewing authority shall specify the expiration date for all other tree and/or plant removal permits.

2.1.3 Findings for Removals

Per HMC Section 16.24.040, the reviewing authority must authorize the removal of a native tree or plant subject to the provisions of the HMC only if the following findings are made:

a) The removal of the native tree or plant does not have a significant adverse impact on any proposed mitigation measures, soil retention, soil erosion and sediment control measures, scenic routes, flood and surface water runoff and wildlife habitats (flora and fauna), especially those with limited habitats (e.g., eagles).

b) The removal of the native tree or plant is justified for one of the following reasons:

   1. The location of the native tree or plant and/or its drip line interferes with the reasonable improvement of the site with an allowed structure, sewage disposal area, paved area or other approved improvement or ground disturbing activity. Also such improvements have been designed in such a manner as to save as many healthy native trees and/or plants as reasonably practicable in conjunction with the proposed improvements;
   2. The location of the native tree or plant and/or its drip line interferes with the planned improvement of a street or development of an approved access to the subject or adjoining private property;
   3. The location of the native tree or plant is hazardous to pedestrian or vehicular travel or safety as determined by the director of transportation, flood control and airports or other county reviewing authority;

4. The native tree or plant or its presence interferes with or is causing excessive damage to utility services or facilities, roadways, sidewalks, curbs, gutters, pavement, sewer line(s), drainage or flood control improvements, foundations, existing structures, or municipal improvements;
5. The condition or location of the native plant or tree is adjacent to and in such close proximity to existing or proposed structure that the native plant or tree has or will sustain significant damage.

c) Joshua trees that are proposed to be removed have been transplanted or stockpiled for future transplanting wherever possible. In the instance of stockpiling the permittee has posted a bond to ensure such Joshua trees are transplanted appropriately.

2.2 California Department of Fish and Wildlife

2.2.1 Western Joshua Tree Conservation Act

Background

The WJTCA was enacted in July 2023 with the primary objective of preserving the western Joshua tree and its associated habitat, while aligning with the state's broader renewable energy and housing priorities.

The WJTCA introduces a streamlined permitting framework that applies to specific development activities and mandates the collection of mitigation fees. These fees are intended to facilitate the acquisition and preservation of western Joshua tree habitat, as well as to support conservation measures aimed at safeguarding the western Joshua tree. The underlying goal is to counterbalance the adverse impacts on western Joshua trees resulting from authorized projects and to promote species conservation on a landscape scale.

Under the WJTCA, CDFW is authorized to perform the following key functions:

- Issue permits for the trimming and removal of hazardous or deceased western Joshua trees.
- Grant permits for the incidental take of western Joshua trees, contingent upon the fulfillment of specific conditions.
- Establish agreements with counties or cities to delegate limited authority for the issuance of the aforementioned permits, provided that predetermined conditions are met.

Furthermore, the WJTCA instructs CDFW to develop a comprehensive conservation plan for the western Joshua tree by the conclusion of 2024.

The WJTCA institutes two categories of mitigation fees, reduced fees and standard fees, depending on the geographical location, as defined in the California Fish and Game Code (Section 1927). It empowers CDFW to issue permits for the incidental take of one or more western Joshua trees, subject to compliance with stipulated conditions. Permit holders may opt to remit specified fees in lieu of undertaking mitigation activities. Additionally, the WJTCA authorizes CDFW to issue permits for the removal of deceased western Joshua trees and the trimming of live western Joshua trees under specific circumstances.

Notably, all in-lieu fees collected under the WJTCA are directed to the Western Joshua Tree Conservation Fund, with the explicit purpose of allocation to CDFW. These funds are designated exclusively for the acquisition, conservation, and management of western Joshua tree conservation lands, as well as the execution of other initiatives designed to safeguard the western Joshua tree.

Permitting

The initial step in the Project permitting process necessitates the comprehensive survey and documentation of western Joshua trees located on the Project site and within a 50-foot radius surrounding the Project site. This census must adhere to precise specifications outlined on CDFW's official website.

Simultaneously, a permit application, available on CDFW's website, must be completed. The application mandates that the applicant complies with the California Environmental Quality Act. There are no stipulated statutory deadlines governing the permitting process; however, CDFW is committed to expeditiously processing the applications upon receipt. Upon successful processing of the application by CDFW, the permittee will be issued an invoice for the mandatory mitigation fee. This fee is to be remitted via check or money order, with the invoice securely attached, following the precise instructions provided by CDFW.

3 Western Joshua Tree Survey

3.1 Western Joshua Tree Survey Methods

Per the City's Protected Plants Policy (HMC 16.24) and the WJTCA, Dudek's International Society of Arboriculture (ISA) certified arborists performed a western Joshua tree survey to inventory and evaluate the health and relocation potential for each western Joshua tree located on and within 50 feet of the Project site (Appendix A, Existing Western Joshua Trees). The inventory was conducted by ISA-certified arborists Christopher J. Kallstrand and Sarah Tian on October 5, 2023. During the inventory, the GPS position of each western Joshua tree found on site was recorded. Dudek certified arborists walked the entire site in parallel transects to ensure documentation of each western Joshua tree on site.

Dudek collected the following attributes of each tree:

- Species
- Size class (Size A = <1 meter [3 feet], Size B = >1 meter [3 feet] and <5 meters [16 feet], and Size C = >5 meters [16 feet])
- Actual height (in meters)
- Health (excellent, good, fair, poor, critical, and dead)[1]
- Live or dead
- Tree maturity (mature if branching occurs, not mature if no branching occurs)
- Flowering or fruiting stage (flowers or fruits present)

If a tree had a severe bend in the trunk, height was recorded with two measurements, h1 and h2, with h1 being the main, upright trunk and h2 being the remaining, non-vertical trunk or branch. H1 and h2 were then added together to get an overall height and size class. If a tree was found leaning, the height was measured from the base of the tree along the leaning trunk to the top of the furthest leaf.

All inventoried and assessed protected trees were tagged with an aluminum tag bearing a unique identification number, which was placed on the main trunk on the north side of each western Joshua tree. Tagging on the north side allows for proper orientation during relocation (each relocated western Joshua tree will need to be oriented in the same direction as it was in its original location). Photographs for each tree were taken in accordance with CDFW requirements for western Joshua tree photographs and included an object for frame of reference.

[1] **Health Rating Descriptions**
Excellent. Tree has excellent health and strong vigor. No damage. Flowering and fruiting expected. Typically, only given to large, high-quality specimens (taller than 15 feet [approximately 5 meters] in height). Transplanting generally not recommended due to size.
Good. Tree has good health and vigor. All branches are alive and healthy. Damage is very localized and minimal. Flowering and fruiting likely, if tree is large enough. Tree is transplantable.
Fair. Tree health is average. Some stressors or damage possible, but any damage is minimal to moderate (e.g., rodent grazing, insect damage). No dead/broken branches. Tree is transplantable.
Poor. Tree is under stress, and overall health is in decline, or tree has taken significant damage. Mortality likely unless stressors relieved and/or conditions change. Broken/dead limbs likely present. Tree is generally not transplantable.
Critical. Tree is in extreme decline. One or more branches dead. One or more branches dying. Physical damage likely present. Damage is significant and extensive. Mortality expected within 2 to 4 years. Tree is not transplantable.
Dead. Tree is dead.

3.2 Western Joshua Tree Survey Findings

Dudek's arborists recorded 35 western Joshua trees within and adjacent to (within 50 feet of) the limits of the Project site, as presented in Appendix B, Tree Information Matrix. In total, all 35 western Joshua trees are located within the Project site, and an additional 0 trees are located within 50 feet of the Project site (survey area). Trees in the tree survey area vary in size and stature according to age and location. Most of the trees within the survey area fall into CDFW's size classes A and B, which are those trees less than 1 meter (3 feet) (size class A) or greater than 1 meter (3 feet) in height but less than 5 meters (16 feet) in height (size class B). In total, 20 trees (57%) fall into size class A, 14 trees (40%) fall into size class B, and 1 tree (3%) fall into size class C (greater than 5 meters [16 feet]). Most of the trees within the survey area are not mature (71%). None of the western Joshua trees were flowering at the time of the survey. The health of the western Joshua trees varies across the site and ranges from good to dead. In total, 13 trees (37%) exhibit good health, 9 trees exhibit fair health (26%), and 13 trees are dead (37%). Individual attributes of each tree are presented in Appendix B, and individual photographs are presented in Appendix C, Site Photographs.

3.3 Project Impacts – Western Joshua Trees

There is wide variation in tolerance to construction impacts among tree species, and the response of an individual tree to impacts also varies with age and condition. Impacts assessed for the Project include western Joshua trees that are located within the proposed Project footprint that will require removal (as defined in the Project site plan). The impact discussion in this section identifies all impacts to protected western Joshua trees that are anticipated to occur based on an evaluation of tree locations compared with the Project site plan. Trees identified for removal are graphically presented in Appendix D, Direct Impacts to Western Joshua Trees.

Based on grading and development plans for the proposed Project, it is estimated that all 35 trees (100%) will require removal to accommodate the Project. Table 1 summarizes impact determinations for western Joshua trees within the tree survey area that are subject to regulation under Section 16.24.060, Plot Plan Requirements, of the HMC and CDFW's WJTCA.

Table 1. Summary of Protected Tree Impact Determinations

Health	Impact Determination		Total (Number)
	Removal (Number)	No Impact (Number)	
Good	13	0	13
Fair	9	0	9
Poor	0	0	0
Very poor	0	0	0
Dead	13	0	13
Total	**35**	**0**	**35**

4 City of Hesperia Requirements

4.1 Plot Plan Requirements

Section 16.24.060 of the HMC states the following:

> Prior to the issuance of a native tree or plant removal permit in conjunction with a development permit and/or approval of a land use application which authorizes such removal, a plot plan or grading plan shall be approved by the appropriate City review authority for each site indicating exactly which trees or plants are authorized to be removed. The required information can be added to any other required site plan. Prior to issuance of development permits in areas with native trees or plants that are subject to the provisions of this chapter, a preconstruction inspection shall be conducted by the appropriate authority. Such preconstruction inspections may be combined with any other required inspection.

As such, Appendix D details the post-construction status of each mapped and evaluated western Joshua tree found on the Project site.

4.2 Relocation and Protection Trees

Per Section 16.24.060 of the HMC, each tree was evaluated for its relocation potential. Due to the low success rate of mature western Joshua tree relocation, only single-stemmed trees in good health and less than 15 feet in height were selected. Based on Project-related impacts, all 35 western Joshua trees would be directly impacted by the proposed Project. Of the 35 direct impacts, 10 directly impacted western Joshua trees met the defined criteria for improved likelihood of post-transplant success. As such, the site contains 10 potentially relocatable trees. As of the date of this Joshua Tree Plan, relocation of western Joshua trees is not a CDFW requirement. However, it should be noted that relocation may be requested by CDFW following review of the Western Joshua Tree Conservation Act ITP Application. As such,should relocation be required by the CDFW, it is recommended that all 10 transplantable western Joshua trees be relocated in accordance with the relocation specifications detailed in Section 4.3.

Based on the impact analysis, there will be no western Joshua trees on the site or within 50 feet of the Project site that will be preserved. However, should it be found at a later date that any of the western Joshua trees can be preserved, it is recommended that the trees be protected in place in accordance with the tree protection measures identified in this Joshua Tree Plan.

4.3 Relocation Specifications

Details and specifications for western Joshua tree relocation, storage, and care in the post-development landscape are also provided in this section.

4.3.1 Salvage

Western Joshua trees have fragile, shallow root systems that are easily damaged during the salvaging and relocation process. During the excavation of the rootball, it is important that as much of the existing root structure as possible be captured so that an intact rootball is maintained during the salvaging and relocation process. The following sections include recommendations to help increase the chances of successful salvage/relocation.

4.3.1.1 Contractor

Western Joshua tree salvage and relocation will be completed by an experienced western Joshua tree relocation specialist.

4.3.1.2 Pre-Salvage Meeting

Prior to initiating western Joshua tree salvage, all contractors involved in the salvage project will attend a site meeting with the Project arborist. The Project arborist will provide the contractor(s) with a copy of the Joshua Tree Plan and will review all relevant components of the Joshua Tree Plan.

4.3.1.3 Salvage Timing

To increase the chances of a successful relocation, trees should be relocated during October through February. To increase western Joshua tree survivability, the trees should not be dug out and/or salvaged in warmer months (April through September). However, should Project limitations and timing require a date not during the recommended October-through-February salvage period, salvaged trees should be stored in a temporary on-site location, per the recommendations in Section 4.4, Storage.

4.3.1.4 Pre-Irrigation

Prior to digging up western Joshua trees, each identified western Joshua tree relocation candidate will be pre-watered. Specifically, each tree will be watered 24 hours prior to relocation. Pre-watering will thoroughly soak the rootball of each tree.

4.3.1.5 Equipment Sanitization

Equipment will be sterilized prior to digging up and transplanting each tree. Equipment sterilization will reduce the likelihood of pathogens being passed from tree to tree.

4.3.1.6 Digging

Tree relocation is best completed through the use of machinery. A front-end loader or hydraulic tree spade is recommended. The hydraulic tree spade may be best used in instances where the soil type is sandy or silty. However, hand-digging of smaller western Joshua trees (1 to 2 feet in height) is acceptable. The goal of relocation is to maintain a high root-to-shoot ratio. Western Joshua tree excavation will capture as much of the rootball as possible; however, due to the tree's shallow root system, holes do not need to be deep. In general, the digging holes

may range from 12 to 18 inches in depth for smaller trees (1 to 2 feet tall) to 24 to 36 inches deep for larger trees. The entire rootball will be removed intact, if possible.

4.3.1.7 Root Maintenance

All attempts will be made to minimize exposure of the rootball to air; exposed roots will be kept wet at all times during the relocation process. Damaged and exposed roots will be cleaned and dusted with sulfur or a fungicide to decrease the likelihood of root pathogens.

4.4 Storage

Should relocation of the 10 western Joshua trees occur, it is recommended that they be stored within a temporary storage location approved by a qualified arborist. The temporary storage location will be based on the development schedule. The storage location will be determined at a later date once the final schedule is confirmed. Trees requiring storage or stockpiling in the short term (i.e., 1 to 4 weeks) will adhere to the storage recommendations provided in the following sections.

4.4.1 Storage Guidelines

Trees stockpiled for longer than 2 weeks will be temporarily stored in shallow ditches, backfilled with native soils, and tamped down. The shallow ditches will be dug prior to tree relocation, and the final depth will be comparable to the depth at which each western Joshua tree is dug. Temporary storage trench depths will be approximately 12 to 24 inches deep, depending on the size of the tree's rootball. Trench widths will be 1 foot larger than the rootball of the tree, and long enough to accommodate the tree, with enough room for equipment between each tree. Multiple trenches may be required to accommodate all salvaged trees.

4.4.2 Storage Direction

During storage, all trees will be oriented in the same direction that they were prior to removal. Each western Joshua tree will be tagged on its northern side and will be reoriented with the tagged side facing north. Prior to tree relocation, each tag will be inspected to ensure that it securely attached to the tree.

4.4.3 Stabilization

Larger plants, over 5 feet tall, may require stabilization until the roots have had the opportunity to become reestablished. To support larger trees, guywire staking may be necessary. Guywires will be connected to the ground (i.e., preferably via a "dead-man" anchor below grade) and attached to the trunk or limbs with an expandable, non-abrasive connector. Multiple guywires may be required (i.e., recommended three equally spaced around the rootball for stability).

4.4.4 Irrigation

Stored trees will be watered 1 to 2 times per week during the storage period to ensure tree health and increase relocation success. During the storage period, the trees will be watered by hand or by temporary irrigation. Should temporary irrigation be installed, the use of drip emitters is recommended. Irrigation emitters will be spaced

according to the watering zone specified for each tree. The watering zone for each tree is identified in Appendix B. The total amount of water required for each tree will be dependent on the season and tree size. Irrigation needs may range from 2 to 20 gallons per watering cycle and will be dependent on ambient daytime temperatures and rainfall totals. Additionally, persistent wet soil will cause mildew and root rot. As such, soil moisture levels will be routinely checked at the time of watering and the soil will be allowed to dry out between watering cycles. The irrigation schedule will be adjusted to meet the conditions described above.

4.4.5 Duration

Trees will not be stockpiled or stored for longer than 45 days.

4.4.6 Summer Salvage: Temporary Shade Structure

Per Section 4.3.1.3, Salvage Timing, should Project limitations and timing require an earlier start date than the recommended October-through-February salvage period, salvaged trees will be stored as described in Sections 4.4.1 through 4.4.5. Furthermore, to reduce tree stress and reduce the risk of post-transplant mortality, the salvaged trees will be stored underneath a temporary shade structure. The temporary shade structure will be sufficient in size to cover the salvaged trees and provide protection from the direct heat of the summer sun. The shade structure will use a minimum 30% shade cloth to shade the trees during the warmer months. The shade structure will be attached to galvanized steel structural poles (or similar) to ensure the shade structure is structurally stable. The shade structure will be installed per the manufacturer's recommendations. Due to the potential for high winds, the shade structure will be attached to the ground using diagonal "dead-man" cable supports and concrete-post footings. The shade structure will be of adequate height to cover the trees. For trees that are greater than 10 feet in height, individual shade structures may be established for each tree. The remaining trees, under 10 feet in height, may be stored under a contiguous structure. In addition to the temporary shade structure, all salvaged trees will be relocated and maintained per the recommendations specified throughout this Joshua Tree Plan.

4.5 Transplant Planting

The following sections detail transplanting guidelines for the salvaged western Joshua trees should relocation occur.

4.5.1 Site Preparation

Prior to tree transplantation, each receiver location will be dug. The final planting locations, should relocation occur, will be finalized once the final landscape plan has been developed and approved. Prior to digging, the sites will be flagged for identification by the Project arborist or registered botanist. In general, the digging hole may range from 12 to 18 inches in depth for smaller trees (1 to 2 feet tall) to 24 to 36 inches deep for larger trees. The width of the hole will be approximately 1 foot larger than the rootball of the transplanted tree. Holes may require additional digging prior to western Joshua tree installation.

4.5.2 Pre-Watering

A water and root hormone mixture will be prepared prior to transplanting the trees. The mixture will be composed of vitamin B1, which is commonly sold by nurseries, and water. The mixture will be mixed per the manufacturer's

directions, which is typically at a 1:250 ratio (B1:water). The receiving hole will be filled with the diluted mixture of rooting hormone and water and allowed to drain prior to placing the tree in the hole.

4.5.3 Planting Direction

Proper orientation of the relocated trees is important to the success of the salvaged trees. Improper planting can result in sunburn and growth distortion. As such, the north side of each tree will be clearly marked/tagged prior to digging, and each tree will be replanted (and stored) in the same orientation as it was in prior to removal.

4.5.4 Planting

Prior to final installation, the hole size will be inspected by the Project arborist to ensure that the planting hole is at minimum 1 foot wider than the rootball and is neither too deep nor too shallow. The hole may require minor adjustments prior to installation. The depth of the hole must be less than the height of the root ball. If the hole is inadvertently dug too deep, soil will be added and compacted by hand or foot. Breaking up compacted soil in a large area around the tree (outside the drip line of the tree) provides the newly emerging roots room to expand into loose soil. This will hasten root growth, translating into quicker establishment. Once the size of the hole is finalized, the tree will be lowered into the hole in the proper orientation, backfilled with native soil, and watered again. Following backfilling and placement, the rootball will be tamped down into the hole to eliminate water pockets.

Following planting, a water basin should be formed with native soil approximately 1 foot outside the pre-determined watering zone. The watering basin will be approximately 3 to 4 inches in height and will surround the tree. The basin will be left intact throughout the establishment period.

4.5.5 Post-Transplant Stabilization

Larger plants, over 5 feet tall, may require stabilization until the roots have had the opportunity to become reestablished. To support larger trees, guywire staking may be necessary. Guywires will be connected to the ground (i.e., preferably via a “dead-man” anchor below grade) and attached to the trunk or limbs with an expandable, non-abrasive connector. Multiple guywires may be required (i.e., recommended three equally spaced around the rootball for stability). Guywires will be removed once the tree is determined to be established by the Project arborist. Trees requiring stabilization are identified in Appendix B.

4.6 Post-Relocation Care

4.6.1 Irrigation

Trees that have been relocated to their final planting location will be watered 1 to 2 times per week for an initial 2-to 3 months, depending on the season, rainfall totals, tree size, and watering zone size. Irrigation will be adjusted seasonally, with a goal of removing the transplanted trees from supplemental irrigation after 2 years have passed and growth has resumed. The total amount of water required for each tree will be dependent on the season and tree size. Persistent wet soil will cause mildew and root rot. As such, soil moisture levels will be routinely checked at the time of watering, and the soil will be allowed to drain and dry out between watering cycles. Watering will be accomplished by hand or by a temporary irrigation system. During irrigation, the tree basin will be filled and allowed

to fully drain. Irrigation needs may range from 2 to 20 gallons per watering. The watering cycle will be adjusted based on tree health and season. The watering zone for each tree (distance from the trunk) is defined for each tree in Appendix B.

4.6.2 Stabilization

Trees that have been stabilized will be routinely inspected by the Project arborist to ensure that the guywires and straps are not damaging the trees. The expandable, non-abrasive connectors will be adjusted, as needed, to minimize damage to the trees. The guywires can be removed once the Project arborist has determined that the trees have become established. In general, little to no movement should be observed on the rootball when the tree is gently pushed. Once the roots are well established, it is important to remove the tree stakes. This will encourage a natural strengthening of the tree trunk so it can support the weight of the branches as they begin grow and spread.

4.6.3 Fertilization

Post-transplantation fertilization is not required.

4.7 Monitoring and Reporting

Tree relocation, stockpiling, maintenance, and watering will be monitored by a certified arborist or registered botanist.

4.7.1 Monitoring

The City does not define a minimum post-transplantation monitoring period. However, an annual inspection and report for 4 years is recommended. For the initial 3 months following transplantation, weekly monitoring by a certified arborist or registered botanist will occur to ensure that the watering needs of each relocated tree are being met. Following the initial 3-month monitoring period, the relocated trees will be monitored monthly for 9 months. Following the first year of monitoring, the trees will be monitored quarterly (every 3 months) for 3 years to ensure tree establishment. Monitoring may be adjusted based on tree health and observations by the Project arborist. The monitoring period will begin once all trees have been installed.

4.7.2 Reporting

Annual reports will be prepared at the end of each calendar year to document the status of the transplantation program and the health/survivability of the relocated trees. Reports of all monitoring will be submitted to the City. Monitoring will track the location, health, and status of each transplanted western Joshua tree. The monitoring arborist or registered botanist will include recommendations for maintenance and irrigation, should they be needed.

4.8 Transplantation Success Criteria

The City does not define a minimum success ratio for transplanted western Joshua trees. However, per CDFW requirements, adherence to an 80% survivability rate is required should relocation be required. As such, should future relocation be required by either the City or CDFW an 80% success rate must be achieved.

5 California Department of Fish and Wildlife Minimization and Mitigation

The following section details the proposed mitigation program described within the ITP application for the Project (Item No. 9 in the application).

5.1 Proposed Minimization and Mitigation

As described in Section 1, under the WJTCA, relocation of western Joshua trees is considered a minimization measure, in contrast to the previous Section 2081 ITP process, where relocation was viewed as an experimental approach. Relocation in the WJTCA is described as follows:

> 4(A) The department [CDFW] may include permit conditions that require the permittee to relocate one or more of the western Joshua trees. If relocation is required, the permittee shall implement measures to assist the survival of relocated trees, and to comply with any other reasonable measures required by the department to facilitate the successful relocation and survival of the western Joshua trees. These relocation measures shall include, but are not limited to, all of the following:
>
> (i) A requirement that the relocated western Joshua tree is placed in a location and with proper orientation to improve its survival.
>
> (ii) A requirement that western Joshua trees are relocated at a time that maximizes their survival when feasible.
>
> (iii) A requirement that a desert native plant specialist be onsite to oversee relocation

Beyond the option of relocation, the California Fish and Game Commission also established the Western Joshua Tree Conservation Fund. This dedicated fund serves the acquisition, preservation, and responsible management of western Joshua tree conservation lands, as well as the facilitation of various other initiatives aimed at the conservation of the western Joshua tree.

Regarding the acquisition of permits for the incidental take of western Joshua trees, permittees are required to remit an in-lieu fee contingent on the project's geographical location. This fee structure is divided into two categories: the reduced mitigation fee area, characterized by lower mitigation fees, and the standard fees area, where mitigation fees are comparatively higher. The Project site is situated within the standard fees area. The standard fees are as follows:

- Trees 5 meters (16 feet) or greater in height: $2,500
- Trees 1 meter (3 feet) or greater but less than 5 meters (16 feet) in height: $500
- Trees less than 1 meter (3 feet) in height: $340

Mitigation for Direct Impacts

Mitigation for direct impacts to 35 western Joshua trees will be fulfilled through the WJTCA in-lieu fee program. As described, the Project site is located in the standard fee area. Table 2 summarizes the impacts to western Joshua trees by height class, the mitigation fee per tree by height class, and the total cost of mitigation. However, note that CDFW calculates the mitigation fee and sends an invoice to the applicant after the application is submitted.

Table 2. In-Lieu Mitigation Fees for Impacts to Western Joshua Tree

Western Joshua Height Class	Count of Western Joshua Trees	Mitigation Fee per Tree by Height Class	Total Cost
5 meters (16 feet) or greater in height	1	$2,500	$2,500
1 meter (3 feet) to less than 5 meters (16 feet) in height	14	$500	$7,000
Less than 1 meter (3 feet) in height	20	$340	$6,800
Total	**35**	—	**$16,300**

6 Tree Protection

For western Joshua trees that will be protected on site (should any trees be preserved), the following measures are recommended so that they have protected zones (crown/canopy width plus 6 feet) around each tree within and immediately adjacent to (within 25 feet of) all active construction areas. For protected trees on site that remain within undisturbed areas, similar tree protection measures are recommended to ensure against potential inadvertent disturbance.

6.1 Tree Protection Measures prior to Construction

Fencing. Orange polyethylene construction fencing, no less than 4 feet in height, with tree protection signs, will be erected around all undisturbed trees (or tree groups). The protective fencing will be installed at the protected zone boundary of each tree (or tree group), which is defined as 6 feet beyond the tree crown/canopy drip line. The intent of protective fencing is to prevent root damage and/or compaction of the soil by grading equipment. An ISA-certified arborist may be required on site if grading activities occur within a tree's protected zone. Fencing will be secured to 6-foot-tall, heavy-gauge T-bar posts pounded into the ground a minimum of 18 inches and spaced a minimum of 8 feet on center. Fencing will be attached to the T-bar posts, with minimum 14-gauge wire fastened to the top, middle, and bottom of each post. Tree protection signs will be attached to every fourth post. The contractor will maintain the fence to keep it upright, taut, and aligned at all times. Fencing will be removed only after all construction activities in the vicinity of the protected trees are complete.

Pre-Construction Meeting. A pre-construction meeting will be held between all contractors (including grading, tree removal/pruning, and building contractors) and an ISA-certified arborist or registered botanist. The meeting will focus on instructing the contractors on tree protection practices and on answering any questions. All equipment operators and spotters, assistants, and those directing operators from the ground will provide written acknowledgment of having received tree protection training. This training will include information on the location and marking of protected trees, the necessity of preventing damage, and the discussion of work practices that will accomplish these tasks.

6.2 Protection and Maintenance during Construction

Once construction activities have begun, the following protection measures will be followed:

Equipment Operation and Storage. Contractors will avoid heavy equipment operation around protected trees. Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and consequently reduces water penetration into the soil. All heavy equipment and vehicles will, at minimum, stay out of the fenced protected tree zone except where specifically approved in writing and under the supervision of a certified arborist or registered botanist.

Materials Storage and Disposal. Contractors will not store or discard any supplies or materials, including paint, lumber, and concrete overflow, within the protected zone, and will remove all foreign debris within the protected zone. However, the contractors will leave the duff, mulch, chips, and other organic material around the retained trees for water retention and nutrient supply. In addition, the contractors will avoid draining or leakage of equipment fluids near retained trees. Fluids such as gasoline; diesel; oils; hydraulic, brake, and transmission fluids; paint; paint

thinners; and glycol (anti-freeze) will be disposed of properly. Contractors will ensure that equipment is parked outside the protected zone to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the trees could result in tree decline and mortality.

Grade Changes. Contractors will ensure that grade changes, including adding fill, are not permitted within the protected zone without special written authorization and under supervision by an ISA-certified arborist or registered botanist. Lowering the grade within the protected zone would necessitate cutting main support and feeder roots, jeopardizing the health and structural integrity of the trees. Adding soil, even temporarily, on top of the existing grade would compact the soil further and decrease water and air availability to the tree roots. Contractors will ensure that grade changes made outside the protected tree zone will not create conditions that allow water to pond at the base of trees. Water trapped at the base of a tree could lead to root rot and other detrimental tree impacts.

Moving Construction Materials. Contractors will ensure that care is exercised when moving construction equipment and supplies near undisturbed western Joshua trees, especially overhead. Contractors will ensure that damage to the trees is avoided when transporting or moving construction materials and working around trees (even outside of the fenced protected zone). Contractors will flag aboveground tree parts that could be damaged (e.g., low limbs, scaffold branches, and trunks) with high-visibility flagging, such as fluorescent red or orange flagging.

Trenching. Except where specifically approved in writing beforehand, all trenching will be outside the fenced protected zone. Where trenching is necessary in areas that contain roots from retained trees, contractors will use trenching techniques that include the use of either a root pruner (Dosko root pruner or equivalent) or an Air-Spade to limit root impacts. An ISA-certified arborist or registered botanist will ensure that all pruning cuts are clean and sharp to minimize ripping, tearing, and fracturing of the root system. Root damage caused by backhoes, earthmovers, dozers, or graders is severe and may result in tree mortality. Use of root-pruning and Air-Spade equipment will be accompanied only by hand removal of soil from trench locations. The trench will be made no deeper than necessary to accommodate the intended materials.

Irrigation/Hand Watering. Irrigation/hand watering of retained western Joshua trees on site will seek to mimic natural rainfall patterns in Southern California. As such, irrigation/hand watering is not required unless recommended by the monitoring ISA-certified arborist or registered botanist.

Inspection/Reporting. An ISA-certified arborist or registered botanist will inspect the preserved trees adjacent to grading and construction activity monthly for the duration of the Project's construction period. A site observation report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage will be submitted by the ISA-certified arborist or registered botanist following each inspection. Annual monitoring reports to document year-end conditions will also be submitted.

6.3 Maintenance after Construction

Following completion of the construction activity within 20 feet of the protected zones of undisturbed western Joshua trees, the tree protection fencing may be removed, and the following measures may be performed to sustain and enhance the vigor of the trees:

Pruning. Regular pruning of the trees is not required.

Watering. The retained trees should not require regular irrigation/hand watering, other than during the 12 months following substantial root pruning, if applicable. Supplemental irrigation/hand watering for the retained trees that sustained root pruning and any newly planted trees may be necessary, especially in years with low winter rainfall.

Watering Adjacent Plant Material. All watering near retained western Joshua trees and adjacent vegetation should mimic natural rainfall patterns. Supplemental irrigation of adjacent plant material should not be required.

Monitoring. For the initial 3 months, weekly monitoring by an ISA-certified arborist or registered botanist is recommended to ensure that the watering needs of each tree is being met. Following the initial 3-month monitoring period, it is recommended that the trees be monitored monthly for 9 months. Following the first year of monitoring, it is recommended that the trees be monitored quarterly (every 3 months) for 3 years. Following each monitoring visit, a site observation report summarizing site conditions, observations, tree health, and recommendations for promoting tree health should be submitted. Any tree mortality will be noted, and any tree dying during the monitoring period will be replaced with the same species as specified per City replacement standards.

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7 Fees

Per HMC Section 16.24.080, where permits or reviews are required and they are not incorporated into other review or permit procedures, fees will be paid in accordance with the City's fee schedule. In addition to the City required fees, per Section 5 of this report, mitigation for direct impacts to 35 western Joshua trees will be fulfilled through the WJTCA in-lieu fee program. As described, the Project site is in the standard fee area. Table 2 summarizes the impacts to western Joshua trees by height class, the mitigation fee per tree by height class, and the total cost of mitigation. However, note that CDFW calculates the mitigation fee and sends an invoice to the applicant after the application is submitted.

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8 Desert Native Plants

Based on the results of the surveys conducted by Dudek botanists on September 7, 2023, one desert native plant species, in addition to western Joshua tree, was observed within the Project footprint: Wiggins' cholla (*Cylindropuntia echinocarpa*). Western Joshua tree and Wiggins' cholla are protected by the City's Protected Plant Policy (HMC Chapter 16.24 et seq.), the County of San Bernardino's Desert Native Plant Protection Ordinance, and the state Desert Native Plants Act (i.e., Food and Agricultural Code 80001 et seq.).

In accordance with the California Desert Native Plants Act and HMC Section 16.24.040 (Protected Plant Ordinance), a native plant removal permit must be obtained from the City prior to the removal of western Joshua tree and Wiggins' cholla.

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9 References

CDFW (California Department of Fish and Wildlife). 2020. *California Fish and Game Commission Notice of Findings, Western Joshua Tree (*Yucca brevifolia*)*. September 24, 2020. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=183565&inline.

USDA (U.S. Department of Agriculture). 2023. "Web Soil Survey." USDA, Natural Resources Conservation Service. Accessed February 2022. http://websoilsurvey.nrcs.usda.gov/.

WRCC (Western Regional Climate Center). 2022. "Hesperia, California: Period of Record Monthly Climate Summary." Accessed May 2022. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3935.

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SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

HCC 1 Lot 5 Project

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SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK 0 250 500 Feet

FIGURE 2

Project Vicinity

HCC 1 Lot 5 Project

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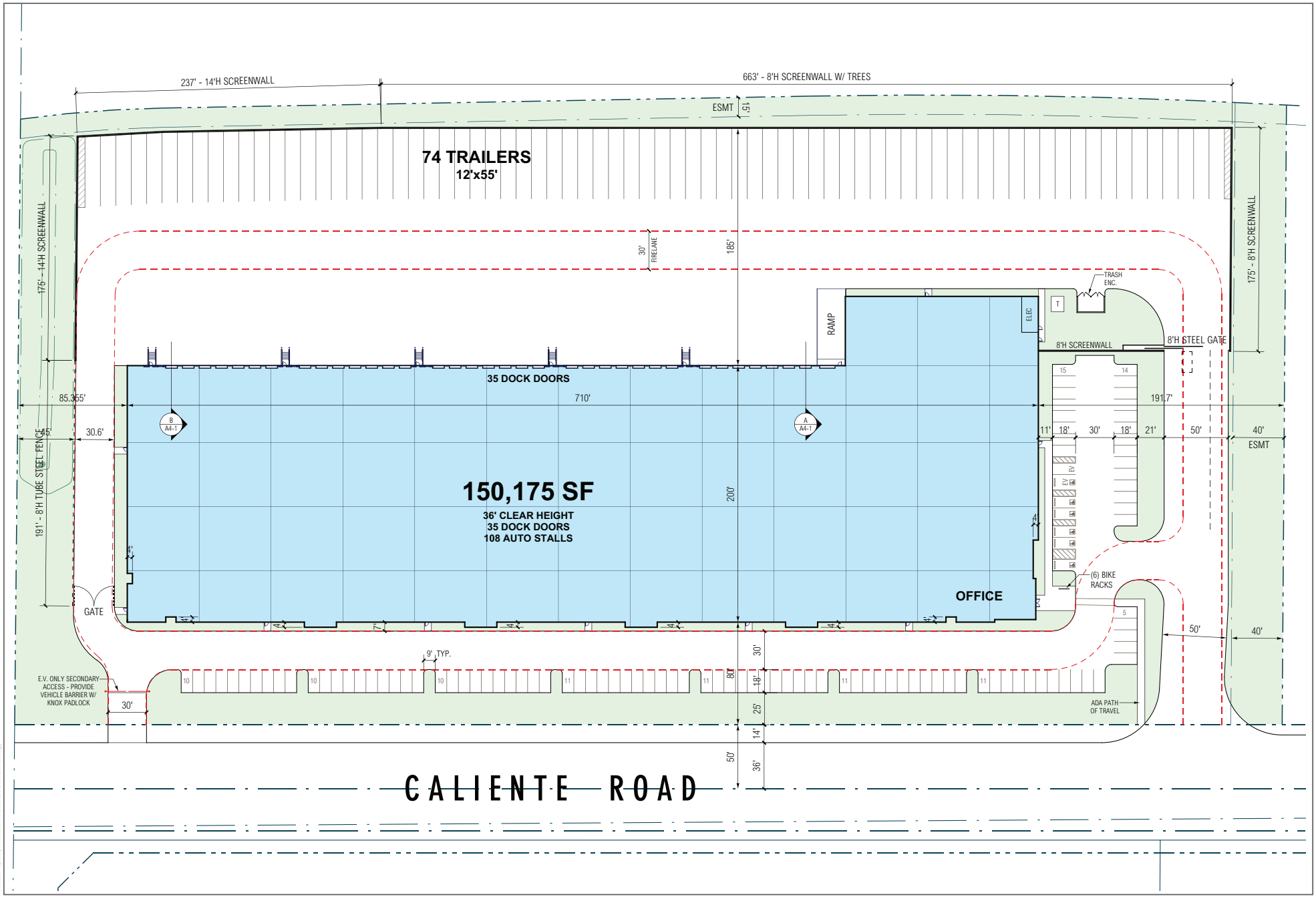

Source: RGA 2024

FIGURE 3
Site Plan
HCC 1 Lot 5 Project

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Appendix A
Existing Western Joshua Trees

SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 75 150 Feet

Appendix A

Existing Western Joshua Trees

Appendix B
Tree Information Matrix

Appendix B- Tree Information Matrix													
Tree No.	Size Class	Height (m.)	Health	Live or Dead	Mature Tree	Flowering or Fruiting	Additional Notes	Impact Status	Within 15 meters of project activities	Relocation Candidate	Photograph ID	Latitude	Longitude
1	B	2.1	Fair	Live	Yes	None	H1 4' H2 3'. Old tag 6	Direct	Yes	No	HCCILot5_WJT1	34.4043800081	-117.4031093366
2	B	2.7	Dead	Dead	Yes	None		Direct	Yes	No	HCCILot5_WJT2	34.4043920863	-117.4031154110
3	B	2.6	Fair	Live	Yes	None		Direct	Yes	No	HCCILot5_WJT3	34.4044740815	-117.4030398537
4	A	0.8	Fair	Live	No	None	Old tag 1	Direct	Yes	No	HCCILot5_WJT4	34.4037763514	-117.4033691043
5	A	0.6	Good	Live	No	None		Direct	Yes	Yes	HCCILot5_WJT5	34.4037734416	-117.4033814211
6	A	0.7	Good	Live	No	None		Direct	Yes	Yes	HCCILot5_WJT6	34.4037887076	-117.4033891969
7	A	0.2	Fair	Live	No	None		Direct	Yes	No	HCCILot5_WJT7	34.4037812891	-117.4033958058
8	B	2.7	Fair	Live	Yes	None	Old tag 2	Direct	Yes	No	HCCILot5_WJT8	34.4036846179	-117.4033403546
9	A	0.7	Dead	Dead	Yes	None		Direct	Yes	No	HCCILot5_WJT9	34.4036844237	-117.4033481933
10	A	0.3	Dead	Dead	Yes	None		Direct	Yes	No	HCCILot5_WJT10	34.4036859928	-117.4033472608
11	A	0.6	Dead	Dead	Yes	None		Direct	Yes	No	HCCILot5_WJT11	34.4036770853	-117.4033401345
12	B	1.8	Good	Live	Yes	None	H1 3' H2 3'	Direct	Yes	No	HCCILot5_WJT12	34.4034154041	-117.4033419832
13	A	0.9	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT13	34.4034017441	-117.4033270281
14	A	1.2	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT14	34.4034114143	-117.4033418826
15	B	2.7	Fair	Live	Yes	None	Old tag 3	Direct	Yes	No	HCCILot5_WJT15	34.4034120361	-117.4033473318
16	B	2.5	Good	Live	No	None	Old tag 4	Direct	Yes	Yes	HCCILot5_WJT16	34.4030850661	-117.4033186845
17	B	1.1	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT17	34.4030828425	-117.4033089764
18	B	1.3	Good	Live	No	None	Old tag 5	Direct	Yes	Yes - Relocate with 19 and 20	HCCILot5_WJT18	34.4026253984	-117.4033532157
19	A	0.7	Good	Live	No	None		Direct	Yes	Yes - Relocate with 18 and 20	HCCILot5_WJT19	34.4026315613	-117.4033576831
20	A	1.0	Good	Live	No	None		Direct	Yes	Yes - Relocate with 18 and 19	HCCILot5_WJT20	34.4026261877	-117.4033633622
21	B	2.0	Good	Live	No	None		Direct	Yes	Yes - Relocate with 22 and 23	HCCILot5_WJT21	34.4025884434	-117.4027031670
22	B	1.8	Good	Live	No	None	Old tag 9	Direct	Yes	Yes - Relocate with 21 and 23	HCCILot5_WJT22	34.4025928639	-117.4026935379
23	B	1.3	Good	Live	No	None	Old tag 8	Direct	Yes	Yes - Relocate with 21 and 22	HCCILot5_WJT23	34.4033785266	-117.4025991304
24	A	0.3	Fair	Live	No	None		Direct	Yes	No	HCCILot5_WJT24	34.4033855915	-117.4026071505
25	A	0.8	Good	Live	No	None		Direct	Yes	No	HCCILot5_WJT25	34.4033807279	-117.4025956790
26	A	0.5	Good	Live	No	None		Direct	Yes	No	HCCILot5_WJT26	34.4033800037	-117.4026076841
27	A	0.1	Fair	Live	No	None		Direct	Yes	No	HCCILot5_WJT27	34.4033944872	-117.4026117328
28	A	0.6	Dead	Dead	No	None	H1 1' H2 1'	Direct	Yes	No	HCCILot5_WJT28	34.4033868530	-117.4026138106
29	A	0.9	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT29	34.4033852165	-117.4026186265
30	A	0.6	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT30	34.4033839031	-117.4025942265
31	A	0.3	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT31	34.4033920983	-117.4025985923

Appendix B- Tree Information Matrix													
Tree No.	Size Class	Height (m.)	Health	Live or Dead	Mature Tree	Flowering or Fruiting	Additional Notes	Impact Status	Within 15 meters of project activities	Relocation Candidate	Photograph ID	Latitude	Longitude
32	A	0.8	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT32	34.4033878521	-117.4025880443
33	B	1.2	Dead	Dead	No	None		Direct	Yes	No	HCCILot5_WJT33	34.4034026869	-117.4026371857
34	B	2.5	Good	Live	No	None	Old tag 10	Direct	Yes	Yes	HCCILot5_WJT34	34.4037768235	-117.4024880636
35	C	5.8	Fair	Live	Yes	None		Direct	Yes	No	HCCILot5_WJT35	34.4044778207	-117.4023701777

Appendix C
Site Photographs

Western Joshua Tree Photograph Log

Project: HCC 1 Lot 5

HCCILot5_WJT1

HCCILot5_WJT2

HCCILot5_WJT3

HCCILot5_WJT4

HCCILot5_WJT5

HCCILot5_WJT6

HCCILot5_WJT7

HCCILot5_WJT8

HCCILot5_WJT9

HCCILot5_WJT10

HCCILot5_WJT11

HCCILot5_WJT12

HCCILot5_WJT13

HCCILot5_WJT14

HCCILot5_WJT15

HCCILot5_WJT16

HCCILot5_WJT17

HCCILot5_WJT18

HCCILot5_WJT19

HCCILot5_WJT20

HCCILot5_WJT21

HCCILot5_WJT22

HCCILot5_WJT23

HCCILot5_WJT24

HCCILot5_WJT25

HCCILot5_WJT26

HCCILot5_WJT27

HCCILot5_WJT28

HCCILot5_WJT29

HCCILot5_WJT30

HCCILot5_WJT31

HCCILot5_WJT32

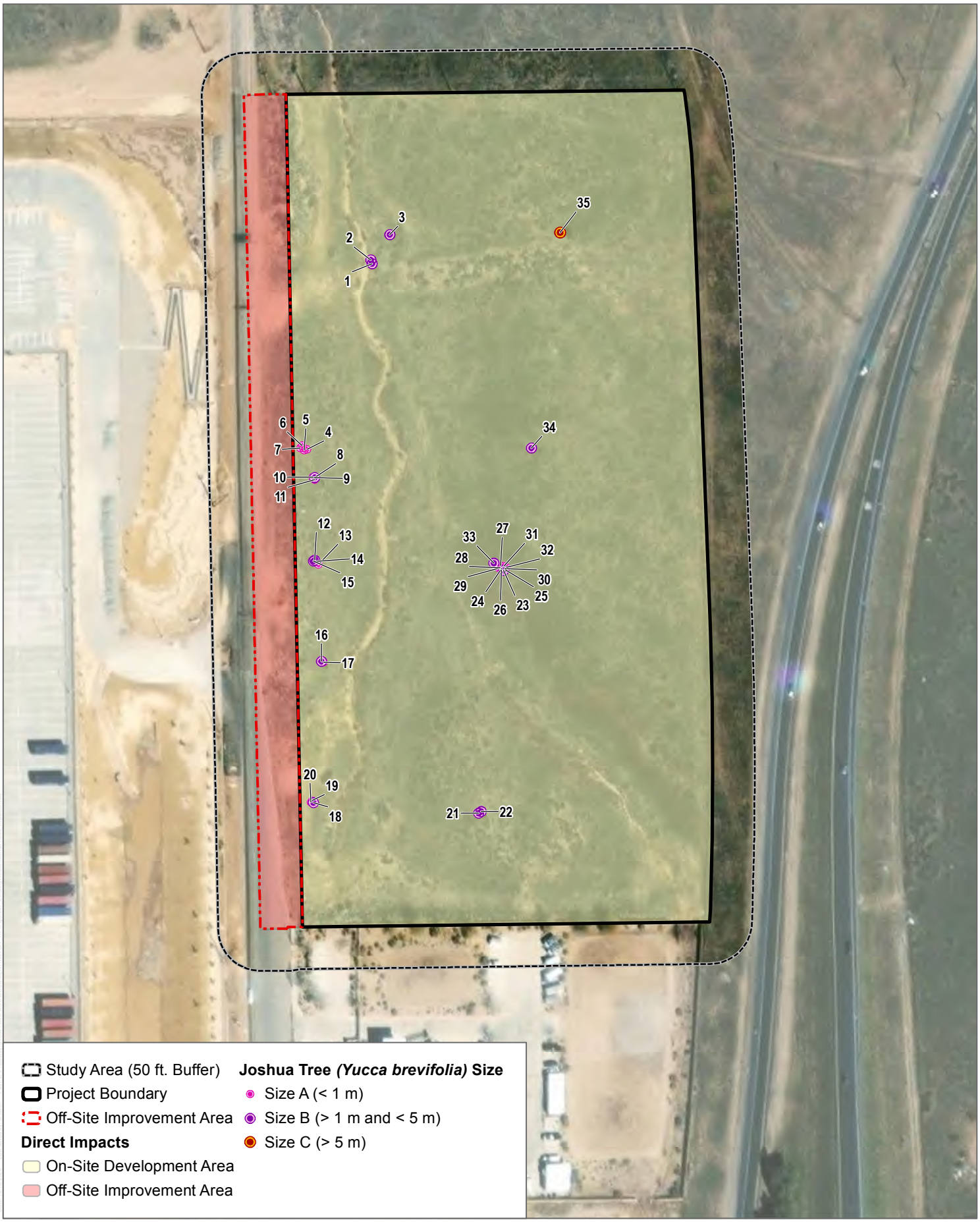
HCCILot5_WJT33

HCCILot5_WJT34

HCCILot5_WJT35

Appendix D

Direct Impacts to Western Joshua Trees



SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 75 150 Feet

Appendix C
Cultural Resources Technical Report

Cultural Resources Technical Report

HCC I Lot 5 Project
City of Hesperia, California

DECEMBER 2023

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Project Information Page

Report Title:	Cultural Resources Technical Report for the HCC I Lot 5 Project, City of Hesperia, California
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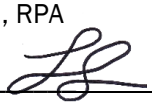
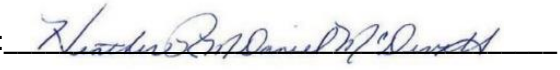
Authors:	Linda Kry, BA, RA, Heather McDaniel McDevitt, MA, RPA, Jennifer De Alba, BA, Brenda Lee Rogers, BA, with contributions to the prehistoric and ethnohistoric sections by Micah J. Hale, Ph.D., RPA Signature:  Signature: 
Firm:	Dudek 38 North Marengo Avenue Pasadena, California 91101
Project Proponent:	Covington Development Partners
Report Date:	December 2023
Type of Study:	Archaeological Phase I Inventory
USGS Quads:	Baldy Mesa
Resources:	Eight (8) previously recorded cultural resources within a 0.5-mile of proposed Project site; none of these resources are within or adjacent to the proposed Project site.
Acreage:	Approximately 12 acres (proposed Project Site)
Keywords:	Archaeological Phase I Pedestrian Survey, City of Hesperia, San Bernardino County

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Executive Summary

Dudek was retained by Covington Development Partners (Project Applicant) to prepare a cultural resources technical report for the proposed HCC I Lot 5 Project (proposed Project) located in the City of Hesperia, San Bernardino County, California. The Project site is located in southwestern Hesperia on approximately 12-acres of vacant and undeveloped land north of existing development, south of vacant land, east of Caliente Road and Building 1 of the Hesperia Commerce Center and existing development, and west of vacant land, U.S. Route 395 (US 395) and Interstate 15 (I-15). The proposed Project would include the construction of an industrial warehouse building, inclusive of office space.

This report includes the results of a California Historical Resources Information System (CHRIS) and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search; in-depth review of geotechnical, archival, academic, and ethnographic information; an archaeological pedestrian survey of the Project site; analysis of the potential for cultural resources to exist within and be impacted by implementation of the proposed Project site; and management recommendations. This report was prepared in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15064.5 for historical resources and 21083.2 for archaeological resources. The City of Hesperia (City) is the lead agency responsible for compliance with the CEQA.

An in-person CHRIS records search was completed by Dudek at the South Central Coastal Information Center (SCCIC) on September 7, 2023. The records search identified 15 previously conducted cultural resources technical investigations that either overlap or are immediately adjacent to the proposed Project site. Additionally, the SCCIC records indicate that eight (8) cultural resources have been previously recorded and submitted within the 0.5-mile records search area. These resources include three (3) historic-period unpaved roads (P-36-004179/CA-SBR-004179H, P-36-004253/CA-SBR-004253H, and P-36-004275/CA-SBR-004275H); a segment of US 395 and associated historic-period refuse scatters (P-36-007545/CA-SBR-007545H); one historic period archaeological site consisting of a can scatter (P-36-007760/CA-SBR-007760H); one prehistoric archaeological site consisting of a lithic scatter (P-36-007759/CA-SBR-007759); one historic-period isolate consisting of glass bottle fragments (P-36-013375); and one prehistoric isolate consisting of a battered cobble of quartz material (P-36-013439). None of these resources were identified within or adjacent to the proposed Project site. A search of the NAHC SLF was negative for known Native American heritage resources within the proposed Project site.

The review of historical topographic maps and aerial photographs demonstrate that the proposed Project site has been vacant and undeveloped since at least 1902. The geotechnical report prepared for the proposed Project (Southern California Geotechnical [SoCalGeo] 2023), indicates that the proposed Project site is composed of both younger and older native alluvium from surface elevations to approximately 25± feet below ground surface (bgs). A pedestrian survey completed in support of the current proposed Project identified widely dispersed cultural materials consisting of historic-period cans, ceramic tableware with no visible diagnostic (dateable) traits, miscellaneous metal items, and modern refuse. These resources are located within an environment of informal dirt roads and vehicular tracks and roughly north-south-trending deep and ephemeral drainages along the western half portion of the site as well as a culvert structure at the southwestern end of the proposed Project site. Based on their current context, these resources appear to be a result of opportunistic and episodic refuse dumping that have then been dispersed across the site through natural aeolian and alluvial activities as well as a result of recreational activities. In consideration of these factors, these resources were noted but not formally documented on

Department of Parks and Recreation (DPR) 523 forms as they appear to not be in their primary depositional locations and therefore within a disturbed context.

As a result of Dudek's extensive archival research, and field survey, no historical or archaeological resources meeting any criteria under CEQA as significant resources were identified within the proposed Project site. Therefore, the proposed Project would result in a less than significant impact to known historical or archaeological resources under CEQA.

Based on the evidence discovered as a result of the CHRIS records search, the NAHC SLF search, historical topographic maps and aerial photographs review, present site conditions (i.e. the presence of drainages and vacant and undeveloped nature of the site), and the intensive-level archaeological pedestrian survey, no known cultural resources have been identified within the proposed Project site; however, there is a potential for unknown intact archaeological deposits to be encountered subsurface within the native alluvial soils. Consistent with the mitigation measures established in the Mitigation Monitoring Reporting Program (MMRP) of the previously certified Environmental Impact Report (EIR) (State Clearinghouse No. 2012081016) for the Hesperia Commerce Center Project pertaining to cultural resources, Dudek recommends the following management considerations to ensure proper treatment of any unknown archaeological resources that may be encountered as a result of Project construction resulting in impacts to cultural resources being less-than-significant: Workers Environmental Awareness Program (WEAP) training for all construction personnel to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources; retention of a qualified archaeologist to conduct spot monitoring as well as on call response in the case of an inadvertent discovery of archaeological resources; and protocols and procedures for the treatment of inadvertent discoveries of unknown cultural resources and human remains.

1 Introduction

Covington Development Partners (Project Applicant) retained Dudek to complete a cultural resources technical report for the HCC I Lot 5 Project (proposed Project) located in the City of Hesperia, San Bernardino County, California. This report includes the results of a California Historical Resources Information System (CHRIS) and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search; in-depth review of geotechnical, archival, academic, and ethnographic information; an archaeological pedestrian survey of the proposed Project site; analysis of the potential for cultural resources to exist within and be impacted by implementation of the proposed Project site; and management recommendations. This report was prepared in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15064.5 for historical resources and 21083.2 for archaeological resources. The City of Hesperia (City) is the lead agency responsible for compliance with the CEQA.

1.1 Project Personnel

Dudek Lead Archaeologist Linda Kry, BA, RA, co-authored the report and provided management oversight and recommendations for cultural resources. Dudek Associate Archaeologists Jennifer De Alba, BA and Brenda Lee Rogers, BA contributed to the report. Ms. Rogers completed the pedestrian survey. Dudek Senior Archaeologist Micah Hale, Ph.D., RPA, authored the prehistoric and ethnohistoric contexts. Dudek Senior Archaeologist Heather McDaniel McDevitt, MA, RPA, who meets the Secretary of the Interior's Professional Qualification Standards, reviewed the report for quality assurance/quality control and appropriate regulatory compliance with CEQA.

1.2 Project Location and Description

1.2.1 Project Location

The approximate 12-acre Project site is located in the southwestern portion of the City of Hesperia, which is situated in the Victor Valley/High Desert region of western San Bernardino County. Specifically, the Project site falls on public land survey system Section 28 of Township 4 North, Range 5 West on the *Baldy Mesa*, CA 7.5-minute United States Geological Survey (USGS) Quadrangle (Figure 1, Project Location). The Project site is located north of existing development, south of vacant land, east of Caliente Road and Building 1 of the Hesperia Commerce Center and existing development, and west of vacant land, U.S. Route 395 (US 395) and Interstate 15 (I-15) (Figure 2, Project Site). The roughly rectangular-shaped Project site is located on one parcel assigned as Assessor's Parcel Number (APN) 3039-351-08.

1.2.2 Project Description

The proposed Project would include the construction of a 150,000 square feet of industrial warehouse building, inclusive of office space, situated on approximately 12 acres of land that was analyzed in a previously certified Final Environmental Impact Report (EIR) (State Clearinghouse No. 2012081016).

Construction and Grading

Based on a review of the recommendations of the geotechnical report prepared for the proposed Project site, the total depth of ground disturbance is expected to extend between 3 to 5 feet below the current ground surface across the proposed Project site (Southern California Geotechnical [SoCalGeo] 2023). Ground disturbing activities associated with utilities is assumed to be no deeper than 15 feet below the existing ground surface.

1.3 Environmental Setting

The proposed Project site is within the geomorphic province of the Mojave Desert, that is bound to the northwest and south by the Transverse Ranges including the northern peninsular Tehachapi Mountains and the southern San Gabriel Mountains and San Bernardino Mountains. More specifically, the proposed Project site is within Victor Valley of the western Mojave Desert. Water sources near the proposed Project site include the Mojave River over 9 miles to the east, the Oro Grande Wash, a tributary of the Mojave River, over 0.25 miles to the west, and the manmade California Aqueduct over 2.5 miles to the north. The proposed Project site is relatively flat with elevation ranges between approximately 3.693 and 3,721 feet above mean sea level (amsl) and a local topographic gradient of an approximate 2 percent decrease towards the northwest (Google 2023). There are no substantial topographical features in the proposed Project site. However, deep and ephemeral drainages are present along the western half portion of the proposed Project site that drain to a concrete culvert at the southwestern corner.

Land uses surrounding the proposed Project site primarily consist of vacant land and land occupied by scattered public, commercial and industrial uses. The proposed Project site is currently vacant undeveloped property bound on the west by Building 1 of the Hesperia Commerce Center now occupied by Modway furniture wholesaler and Caliente Road, to the north by vacant land and a park-and-ride, to the east by US 395 and I-15, and to the south by San Bernardino County Fire Station 305 and vacant land. The proposed Project site is located within the Main Street and Freeway Corridor Specific Plan that identifies the land use and zoning designations for the proposed Project site as Commercial/Industrial Business Park. Ground surface cover consists of moderate native brush and shrub growth, with sparsely populated Joshua trees throughout the site.

1.3.1 Review of Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a), one soil type has been identified in the proposed Project site: Hesperia Loamy Fine Sand, 2 to 5 percent slopes. The Hesperia soil series official soil description is summarized as follow:

Hesperia Series (USDA 2023b): The Hesperia series consists of very deep, well drained soils that formed in alluvium derived primarily from granite and related rocks. Hesperia soils are on alluvial fans, valley plains, and stream

terraces, and have slopes of 0 to 9 percent. A typical Hesperia pedon extends from 0 to 77 inches below ground surface (bgs).

A review of the USGS mineral resources (USGS 2023) online spatial data for geology indicates that the proposed Project site is comprised of one type of geologic unit - Older Quaternary alluvium and marine deposits from the Pleistocene epoch. Late Pleistocene-era alluvial formations do have the potential to support the presence of buried archaeological resources. These soils are associated with the period of prehistoric human use, as well as represent ongoing processes of development that have potential to preserve cultural material in context, depending on area-specific topographical setting.

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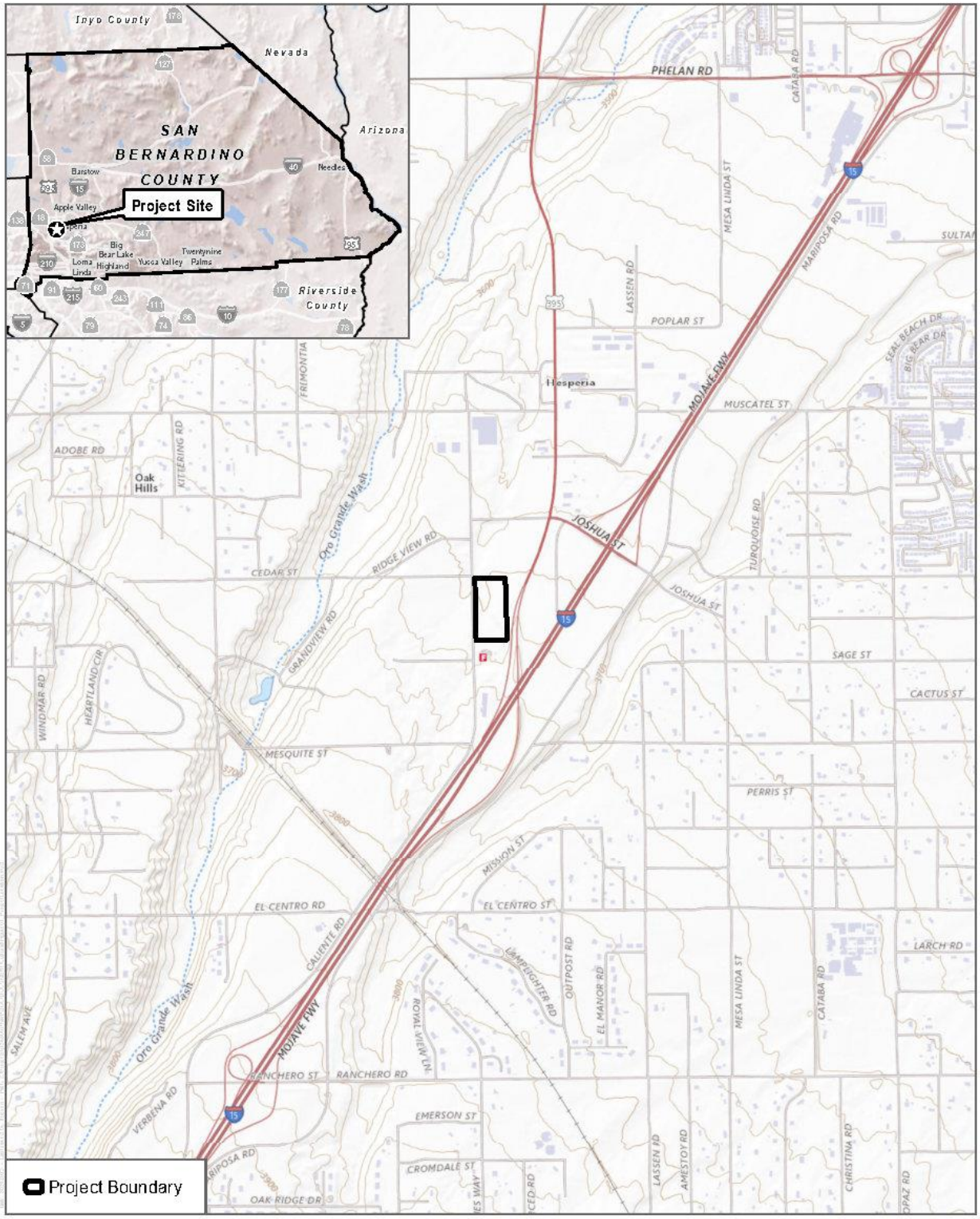

SOURCE: USGS Baldy Mesa Quadrangle, Township 4 N / Range 5 W / Section 28

DUDEK

0 1,000 2,000 Feet
0 300 600 Meters

FIGURE 1
Project Location
HCC 1 Lot 5 Project

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FIGURE 2
Project Site
HCC 1 Lot 5 Project

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1.4 Regulatory Setting

This section includes a discussion of the applicable state laws, ordinances, regulations, and standards governing cultural resources, which must be adhered to before and during construction of the Project.

1.4.1 State

The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code Section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to California Public Resources Code Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological and historic resources:

1. California Public Resources Code Section 21083.2(g): Defines "unique archaeological resource."
2. California Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5(a): Defines historical resources. In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource. It also defines the circumstances when a project would materially impair the significance of a historical resource.
3. California Public Resources Code Section 5097.98 and CEQA Guidelines Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
4. California Public Resources Code Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation-in-place as the preferred manner of mitigating impacts to significant archaeological sites.

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(b)). An "historical resource" is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question: (a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in pre-history or history.

The term "historical resource" also includes any site described in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)).

CEQA also applies to "unique archaeological resources." California Public Resources Code Section 21083.2(g) defines a "unique archaeological resource" as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In 2014, CEQA was amended to apply to "tribal culture resources" as well, but the amendment did not provide a definition for such resources or identify how they were to be evaluated or mitigated (California Public Resources Code Sections 21084.2 and 21084.3). Instead, California Public Resources Code Section 21083.09 required that the Office of Planning and Research develop and adopt guidelines for analyzing "tribal cultural resources" by July 1, 2016. As of the effective date of this report, however, those guidelines have not been finalized or adopted. Consequently, this report addresses only historic resources and unique archaeological resources.

All historical resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)). A site or resource that does not meet the definition of "historical resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further (California Public Resources Code Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)).

Under CEQA and significant cultural impact results from a "substantial adverse change in the significance of an historical resource [including a unique archaeological resource]" due to the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); California Public Resources Code Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

CEQA Guidelines Section 15064.5(b)(2)

Pursuant to these sections, the CEQA first evaluates evaluating whether a project site contains any "historical resources," then assesses whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archeological resource, CEQA imposes special mitigation requirements. Specifically, "[i]f it can be demonstrated that a project will cause damage to a unique archeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:"

1. "Planning construction to avoid archeological sites."
2. "Deeding archeological sites into permanent conservation easements."
3. "Capping or covering archeological sites with a layer of soil before building on the sites."
4. "Planning parks, greenspace, or other open space to incorporate archeological sites."

California Public Resources Code Section 21083.2(b)(1)-(4)

If these "preservation in place" options are not feasible, mitigation may be accomplished through data recovery (California Public Resources Code Section 21083.2(d); CEQA Guidelines Section 15126.4(b)(3)(C)). California Public Resources Code Section 21083.2(d) states that "[e]xcavation as mitigation shall be restricted to those parts of the unique archeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report."

These same requirements are set forth in slightly greater detail in CEQA Guidelines Section 15126.4(b)(3), as follows:

1. Preservation in place is the preferred manner of mitigating impacts to archeological sites. Preservation in place maintains the relationship between artifacts and the archeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
2. Preservation in place may be accomplished by, but is not limited to, the following:
    a. Planning construction to avoid archeological sites;
    b. Incorporation of sites within parks, greenspace, or other open space;
    c. Covering the archeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site [; and]
    d. Deeding the site into a permanent conservation easement.
3. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.

Note that, when conducting data recovery, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation." However, "[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center" (CEQA Guidelines Section 15126.4(b)(3)(D)).

California Health and Safety Code

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Public Resources Code Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (Section 7050.5b). California Public Resources Code Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the Native American Heritage

Commission (NAHC) within 24 hours (section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains, and items associated with Native Americans.

1.4.2 Local

City of Hesperia General Plan Update (2010)

The City of Hesperia General Plan contains the following goals and policies that address cultural resources and are applicable to the Project (City of Hesperia 2010):

Conservation Element: Historical, Paleontological, and Cultural Resources

Goal: CN-5. The City shall establish policies and procedures in compliance with state and Federal laws and regulations to identify and properly protect found historical, cultural and paleontological artifacts and resources.

- Policy: CN-5.1. Encourage the preservation of historical, paleontological and cultural resources.
- Policy CN-5.2. In those areas where surveys and records indicate historical, cultural or paleontological resources may be found, appropriate surveys and record searches shall be undertaken to determine the presence of such resources, if any.
- Policy CN-5.3. All historical, paleontological and cultural resources discovered shall be inventoried and evaluated according to CEQA regulations and the California Office of Historic Preservation.
- Policy CN-5.4. The City shall coordinate with the Archeological Information Center at the San Bernardino County Museum in reviewing potential records and in preserving such artifacts as may be found.
- Policy CN-5.5. Through its CEQA and other environmental procedures, the City shall notify appropriate Native American representatives of possible development and shall comply with all State and Federal requirements concerning the monitoring and preservation of Native American artifacts and places.

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2 Cultural Context

2.1 Prehistoric Setting

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad period have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. However, given the direction of research and differential timing of archaeological study following intensive development in Riverside County, chronology building in the Inland Empire must rely on data from neighboring regions to fill the gaps. To be more inclusive, this research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (before 7500 BP)[1], Archaic (10,000–1500 BP), Late Prehistoric (1500 BP–AD 1769), and Ethnohistoric (after AD 1769).

2.1.1 Paleoindian Period (before 7500 years ago)

Evidence for Paleoindian occupation in the region is tenuous. Our knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego, through the Mojave Desert, and beyond. A very unique technology defined by fluted projectile points and a highly formal lithic tool kit with almost no processing equipment is often considered to be the earliest evidence of human adaptation to North America. Widely known as “Clovis,” regional manifestations of this toolkit show important variability both in projectile point style and tool kit composition. Importantly, the attributes of “Clovis” are uncommon in California, with very few examples of the diagnostic, “fluted” Clovis point. There is, however, a notable exception from Crystal Cove State Park in southern Orange County (Fitzgerald and Rondeau 2012). This, along with other potential attributes of Clovis culture along the California Coast remain undated, and most of the earliest well-dated sites from the region contain rather different archaeological assemblages (Erlandson et al. 2007).

While the earliest evidence for human activity in California comes from the Channel Islands, ca. 13,000 BP, it does not exhibit obvious cultural similarity with the Clovis phenomenon. However, in the southern Central Valley fluted Clovis points date from ca. 11,000–10,500 BP (Rogers and Yohe 2020). One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) comes from SDI-4669/W-12 in La Jolla, with human remains dating to ca. 9900–9050 BP (Bada et al. 1984). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools) (Kennedy 1983). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern come from Naval Air Weapons Station China Lake near Ridgecrest (Davis 1978). These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Fluted points from SBR-2355 and SBR-2356, also in the Mojave Desert, are considered quite ancient (on the thickness of obsidian hydration rinds) and co-occur with a diverse assemblage that also contains stemmed points, typically attributed to the Lake Mojave archaeological culture. Other typical Paleoindian sites in the desert include the Komodo site

[1] “BP” indicates calibrated, calendar years before present (specifically, prior to AD 1950). Ages presented herein have been calibrated from the original age estimates wherever possible; ranges of general phenomena (e.g., cultural periods are approximate).

(MNO-679)—a multi-component fluted point site, and MNO-680—a single component Great Basined Stemmed point site (Basgall 1987, 1988; Basgall et al. 2002). At MNO-679 and -680, ground stone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional image of Paleoindians as highly mobile big-game hunters. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (before 7500 BP) that submerged as much as 16 kilometers of the San Diego coastline since people first arrived in California, ca. 13,000 years ago (ICF 2013). If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contain stemmed points similar in form and age to Silver Lake and Lake Mojave projectile points from the high desert (Basgall and Hall 1993; Warren et al. 2004). However, sites of this nature are extremely rare; more typical are sites that contain large numbers of milling tools intermingled with older projectile point forms. Separating cultural components on the basis of artifact form and frequency is therefore difficult.

Warren et al. (2004) claim that a biface manufacturing tradition at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between ca. 11,200 and 8200 BP (on the basis of radiocarbon dates from the Harris site itself). Termed San Dieguito (also see Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of well-made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (also see Warren 1964; Warren 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987, 2017) suggested that the San Dieguito pattern is simply the inland manifestation of a broader economic pattern. This interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent on tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies the regional Archaic sites (see below). It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents an economic strategy distinct from that represented by other roughly contemporaneous assemblages from throughout the region.

San Dieguito sites are rare in the inland valleys, with one possible candidate, RIV-2798/H, located on the shore of Lake Elsinore. Excavations at Locus B at RIV-2798/H produced a toolkit consisting predominately of flaked stone tools, including crescents, points, and bifaces, and lesser amounts of groundstone tools, among other items (Grenda 1997). A calibrated and reservoir-corrected radiocarbon date on a shell from this site points to an early occupation, ca. 8880–8525 BP. Grenda suggested this site represents seasonal exploitation of lacustrine resources and small game and resembles coastal San Dieguito assemblages and spatial patterning.

If the San Dieguito pattern truly represents a socioeconomic strategy distinct from the regional Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic

strategy. Such a conclusion would fit with other trends in Southern California deserts, where hunting-related tools were replaced by processing tools during the early Holocene (Basgall and Hall 1990).

2.1.2 Archaic Period (10,000 – 1500 years ago)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in Southern California. If San Dieguito is the only recognized Paleoindian component in the coastal Southern California, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (see Hale 2001, 2009).

The Archaic pattern, which has also been termed the Millingstone Horizon (among other things), is relatively easy to define with assemblages that consist primarily of processing tools, such as millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Basgall and Hall 1990; Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurred until the bow and arrow, and then ceramics, were adopted after 1500 BP (Griset 1996; Hale 2009; Schaefer 2012). Even then, assemblage formality remained low. After the bow was adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped ground stone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

2.1.3 Late Prehistoric Period (1500 BP–AD 1769)

The period of time following the Archaic and before Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (McDonald and Eighmey 2004; Rogers 1945; Wallace 1955); however, several other subdivisions continue to be used to describe various shifts in assemblage composition. In general, this period is defined by the addition of arrow points and ceramics, as well as the widespread use of bedrock mortars. The fundamental Late Prehistoric assemblage is very similar to the Archaic pattern but includes arrow points and large quantities of fine debitage from producing arrow points, as well as ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces. Some argue that the Ethnohistoric intensive acorn economy extends as far back as 1500 BP (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred before 600 BP. In Riverside County and the surrounding region, millingstones and handstones persisted in higher frequencies than mortars and pestles until the last 500 years (Basgall and Hall 1990); even then, weighing the economic significance of millingstone-handstone versus mortar-pestle technology is tenuous due to incomplete information on archaeological assemblages.

2.1.4 Ethnohistoric Period (after AD 1769)

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the region come predominantly from European merchants, missionaries, military personnel, and explorers. These briefs, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Harrington 1934; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the precontact and culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities.

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of precontact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007).

Golla contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007, p. 80). A large amount of variation within the language of a group represents a greater time depth than a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

The tribes of this area have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Gabrielino, Cahuilla, and Serrano. Golla interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD

1, which was later followed by the diversification within the Takic speaking tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2000).

Serrano

Traditionally, the Serrano lived in an area east of the Gabrielino and north of the Cahuilla, near present-day western San Bernardino County and northeastern Los Angeles County (Laylander 2010). The Serrano occupied an area in and around the San Bernardino Mountains between approximately 1,500 and 11,000 feet amsl. Their territory extended west along the northern slope of the San Gabriel Mountains, east as far as Twentynine Palms, north along the Mojave River, and south to the San Jacinto area. Kroeber (1925) divided the Serrano into four distinct groups within the western Mojave Desert: the Kitanemuk, Tataviam, Serrano, and Vanyume. Each group held a distinct territory within the region (Kroeber 1925). According to Bean and Smith (1978, p. 570), "the Serrano resided in an area that extended east of the Cajon Pass, located in the San Bernardino Mountains, to Twenty-nine Palms, the north foothills of the San Bernardino Mountains and south to include portions of the Yucaipa Valley."

Serrano social organization was based on patrilineal and patrilocal lineages. Exogamy rules required that a man could not marry a woman related to them within five generations. Women moved to their husband's village but kept their identity as a member of their natal lineage.

The Serrano were mainly hunters and gatherers who occasionally fished. Game hunted included mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Vegetable staples consisted of acorns, piñon nuts, bulbs and tubers, shoots and roots, berries, mesquite, barrel cacti, and Joshua tree (Bean and Smith 1978). A variety of materials was used for hunting, gathering, and processing food, as well as for shelter, clothing, and luxury items. Shells, wood, bone, stone, plant materials, and animal skins and feathers were used for making baskets, pottery, blankets, mats, nets, bags and pouches, cordage, awls, bows, arrows, drills, stone pipes, musical instruments, and clothing (Bean and Smith 1978).

The majority of the Serrano lived in small villages, close to sources of fresh water (Benedict 1924). Houses and ramadas were round, dome-shaped, and constructed of poles covered with bark and tule mats (Benedict 1924; Kroeber 1925). The Serrano also had sweat houses and ceremonial houses for religious activities. Further, according to Benedict (1924), a typical Serrano settlement was a village with multiple small satellite camps surrounding it. Most Serrano villages also had a ceremonial house used as a religious center. Other structures within the village might include granaries and sweathouses (Bean and Smith 1978). According to DeBarros (2004), one of the more prominent Serrano villages was called Guapiabit, and it was located in Summit Valley.

2.2 Historic Setting

Post-Contact history for the State of California is generally divided into three periods: the Spanish Period (1769–1821), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, signals the beginning of the American Period when California became a territory of the United States.

2.2.1 Spanish Period (1769-1821)

Spanish explorers made sailing expeditions along the coast of southern California between the mid-1500s and mid-1700s. In search of the legendary Northwest Passage, Juan Rodríquez Cabrillo stopped in 1542 at present-day San Diego Bay. With his crew, Cabrillo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded during the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location the names we use today. The Spanish crown laid claim to California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1885; Gumprecht 1999).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonial matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July of 1769, while Portolá was exploring southern California, Franciscan Friar Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

The Portolá expedition first reached the present-day boundaries of Los Angeles in August 1769, thereby becoming the first Europeans to visit the area. Friar Juan Crespí named the campsite by the river "Nuestra Señora la Reina de los Angeles de la Porciúncula" or "Our Lady the Queen of the Angeles of the Porciúncula." Two years later, Friar Junípero Serra returned to the valley to establish a Catholic mission, the Mission San Gabriel Arcángel, on September 8, 1771 (Kyle 2002).

2.2.2 Mexican Period (1821–1848)

A major emphasis during the Spanish Period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the Indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Dallas 1955).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. Fourteen ranchos were granted between 1819 and 1846 in the future Riverside County. Ranchos deeded near the Project Area were Rancho San Jacinto Nuevo y Potrero and Rancho San Jacinto Sobrante, granted by Governor Pio Pico in 1846, Rancho San Jacinto Viejo, granted by acting Governor Manuel Jimeno in 1842, and Rancho San Jacinto y San Gorgonio, granted by Governor Manuel Micheltorena in 1843. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and the establishment of many additional ranchos (Hallan-Gibson 1986; Middlebrook 2005).

During the heyday of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of non-native inhabitants increased during this period with the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who did not possess immunities to them (Dallas 1955).

2.2.3 American Period (1848–Present)

War in 1846 between Mexico and the United States precipitated the Battle of Chino, a clash between resident Californios and Americans in the San Bernardino area. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. Territories. Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The Gold Rush began in 1848, and with the influx of goldseekers, the ranching economy began to produce meat and dairy, in addition to hides and tallow. During the cattle boom of the 1850s, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 2005; Waugh 2003).

2.2.3.1 Brief Relative History of the Victor Valley Region and the City of Hesperia

Upon completion of the construction of the first transcontinental railroad in the late 1860s, another line was planned for entry into through the Cajon Pass, located between the San Bernardino Mountains and the San Gabriel Mountains, approximately 7.5 miles southwest of the present proposed Project site, at the junction of I-15 and California State Route (SR) 138. The Cajon Pass was seen as the entrance into Southern California from the northeast. The completion of the Santa Fe Railroad through the Victor Valley region precipitated the settlement of the area during the 1880s (Love et al. 2002). The then mayor of Anaheim, Max Strobel, being familiar with the Mojave River area and in anticipation of the railroad line through the Victor Valley region, invested in 9,000 acres of land in what would later become the City of Hesperia.

The availability of ground water supplied by the Mojave River and its tributaries provided fertile land for the development of agricultural farming. The value of farmland during the years after 1890 and various homesteading laws that were developed in the mid to late 1800s to encourage the purchase and cultivation of the land within the high desert, resulted in a surge of public lands being claimed (Lyman 2000).

The Homestead Act of 1862 allowed for the ownership of 160 acres of land to eligible US citizens provided they resided on the land for at least five years and improved the land through cultivation. However, the length of time could be shortened to six months residence if the claimants paid a fee of $1.25 per acre (Lyman 2000; National

Archives 2022). The Desert Land Act of 1891 offered 640 acres to adult married couples for the cost on 1.25 per acre provided they irrigated and cultivated arid and semiarid public lands resulting in successful production of crops within three years (Lyman 2000).

In 1888, Robert M. Widney, a former Nevada mining engineer and longtime Southern California resident, devised a water system that diverted water from Deep Creek utilizing a pipe-culvert that ran more than a mile through the Mojave River and onto the elevated Hesperia lands and terminated at a reservoir located approximately 5.5 miles east of the current proposed Project site at the site of present-day Lime Street Park (Lyman 2000). Upon completion of the water diversion system, the Hesperia Company, financed by banks and businessmen from the Los Angeles area, marketed the agricultural possibilities and the completed Santa Fe Railroad through the Victor Valley region. This was intended to promote real estate in Hesperia and resulted in local development between 1888 and 1890 including the construction of five homes, a 50-bedroom hotel, a general store, a post office, and a school (Lyman 2000).

3 Background Research

3.1 CHRIS Records Search

On September 7, 2023, Dudek conducted a search of the CHRIS at the South Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton. The search included any previously recorded cultural resources and investigations within a 0.5-mile radius of the proposed Project site. The CHRIS search also included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, and the California State Historic Resources Inventory list. Dudek reviewed the SCCIC records to determine whether the implementation of the proposed Project would have the potential to impact any known cultural resources as well as analyze the general archaeological sensitivity of the area. The confidential records search results are provided in Confidential Appendix A.

3.1.1 Previously Conducted Cultural Resources Studies

Results of the CHRIS records search indicate that fifteen (15) previous cultural resource studies have been conducted within a 0.5-mile of the proposed Project site between 1973 and 2016. Of these studies, none overlap the proposed Project site indicating that the entirety (100 percent) of the proposed Project site has not been subject to any previous cultural resource investigations. However, four (4) studies, SB-00191, SB-02476, SB-03020, and SB-05452, were conducted on properties immediately adjacent to the proposed Project site. Table 1, below, provides a complete list of all 15 previous cultural resource studies within 0.5-mile of the proposed Project site followed by brief summaries of the adjacent studies. Additionally, although not on file at the SCCIC, this section includes a brief summary of the impacts analysis for cultural resources in the previously certified Final EIR for the HCC I Project (SCH No is 2012081016) is also provided to inform on the cultural resource investigation completed in 2013 that included the present proposed Project site.

Table 1. Previously Conducted Cultural Resources Studies within a 0.5-Mile of the Proposed Project Site

SCCIC Report Number	Authors	Year	Title	Proximity to Proposed Project Site
SB-00191	Smith, Gerald A.	1973	Archaeological, Historical, and Paleontological Site Survey for County Service Area No. 70 Improvement Zone "J". Assessments of Impact and Recommendations.	**Adjacent to the west**
SB-02229	Shinn, Juanita R.	1991	Archaeological Assessment of 10-Acre Parcel for Creative Boundaries	Outside
SB-02238	Knell, Edward J.	1991	Cultural Resources Reconnaissance of Twenty One Acres Near Hesperia, San Bernardino County, California	Outside

Table 1. Previously Conducted Cultural Resources Studies within a 0.5-Mile of the Proposed Project Site

SCCIC Report Number	Authors	Year	Title	Proximity to Proposed Project Site
SB-02476	Mckenna, Jeanette A.	1991	A Phase I Linear Survey: Cultural Resources Investigations for the Hesperia Improvement District, Hesperia, San Bernardino County, California	**Adjacent to the west**
SB-03020	Sturm, Brad, D. Mclean, K. Becker, and J. Rosenthal	1993	(Draft) Adelanto-Lugo Transmission Project Cultural Resources Assessment	**Adjacent to the west**
SB-03366	Brechbiel, Brant	1998	Cultural Resource Records Search and Survey Report For A Pbms Services Telecommunications Facility: Cm 239-01 in the City Of Hesperia, California	Outside
SB-04286	Love, Bruce	1999	08-Sbd Hesperia Park & Ride Facility at the Intersection of Us 395 & Joshua St Near the City Of Hesperia	Outside
SB-04288	Rodarte, Michael F.	2001	Phase I Archaeological Survey of the Gassaway Project, Hesperia, San Bernardino County, California	Outside
SB-04289	White, Robert S. and Laura S. White	2003	A Cultural Resources Assessment of the San Bernardino County Special Districts Csa 70 Zone J Casita Ave Water Pipeline Project Near Hesperia, San Bernardino County	Outside
SB-04309	Mckenna, Jeanette A.	2000	Results Of A Phase I Cultural Resources Investigation of the Nick Adams Property, (APN: 3039-321-03), San Bernardino County, California	Outside
SB-04580	Hatheway, Roger	2005	A Phase I Historical and Archaeological Survey of the Caliente Industrial Park Property, Assessor Parcel # 3039-321-08-0000, City Of Hesperia, California	Outside
SB-05452	McKenna, Jeanette	2007	Results of a Phase I Cultural Resources Investigation for Approximately 20 Acres of Land (APN 3039-321-10) in the City of Hesperia, San Bernardino County, California	**Adjacent to the northwest**
SB-05698	Hogan, Michael	2007	Historical/Archaeological Resources Survey Report: Us Highway 395 Realignment EIR, Victorville Area, San Bernardino County, California	Outside
SB-06162	Bonner, Wayne and Marnie Aislin-Kay	2008	Cultural Resource Records Search and Site Visit Results for Royal Street Communications California, LLC Candidate LA3329A (Outpost Road), 8391 Outpost Road, Oak Hills, San Bernardino County, California	Outside

Table 1. Previously Conducted Cultural Resources Studies within a 0.5-Mile of the Proposed Project Site

SCCIC Report Number	Authors	Year	Title	Proximity to Proposed Project Site
SB-08019	Hogan, Michael	2016	Archaeological Survey Report Park and Ride Facility Expansion Project City of Hesperia, San Bernardino County, California	Outside

Report SB-00191

Archaeological, Historical, and Paleontological Site Survey for County Service Area No. 70 Improvement Zone "J", Assessments of Impact and Recommendations (Smith 1973), documents the results of an archaeological, historical, and paleontological site survey. The area of study is adjacent to the west of the current proposed Project site. The study was conducted to identify potential for archaeological, historical, and paleontological resources to exist within the footprint of the proposed water line routes for the project. The study identified one prehistoric site (P-36-002208) within the subject area, consisting of a prehistoric lithic scatter; however, this resource is not within the present proposed Project site. Overall, no cultural resources were identified within the current proposed Project site as a result of the 1973 investigation. The study includes a management recommendation specific to resource P-36-002208 for recovery and documentation of the cultural material associated with the resource prior to its destruction.

Report SB-02476

A Phase I Linear Survey: Cultural Resources Investigations for the Hesperia Improvement District, Hesperia, San Bernardino County, California (McKenna 1991), documents the results of a Phase I archaeological survey and cultural resources assessment consisting of an archival records search, literature review, and an archaeological pedestrian survey. The area of study is adjacent and west of the current proposed Project site. The study was conducted to assess the potential for cultural resources to exist and be impacted by a project proposing multiple road alignments, water pipelines, and sewer lines. While McKenna did not find evidence of prehistoric or historic period resources along the proposed alignments, four locations along the alignments were identified where historic period roads crossed the paths of the proposed project improvements. However, the report states that no cultural resources were identified within the current proposed Project site as a result of the 1991 investigation. The report includes a recommendation that archaeological monitoring be conducted, along specific alignments determined archaeologically sensitive, by an archaeological monitor possessing certification in historical archaeology from the Society of Professional Archaeologists and included on the list at the San Bernardino Museum Archaeological Information Center.

Report SB-03020

DRAFT Adelanto-Lugo Transmission Project, Cultural Resources Assessment (Sturm et al. 1993), documents the results of a cultural resources assessment consisting of an archival records search, literature review, and an archaeological pedestrian survey. The area of study is adjacent to the west of the current proposed Project site. While a federal nexus is not provided within the report, federal language is used throughout, such as “Area of Potential Effect” or “APE” and historic properties. As such, the following summary will include these terminologies.

The cultural resources assessment was undertaken to address the following: determine whether historic properties are present within the APE, including several electrical transmission alignments and related facilities in the west Mojave Desert, to establish locations for the development of transmission tower needs; provide determinations for National Register eligibility of cultural resources identified; and provide mitigation measures as appropriate for potentially eligible properties. As a result of the investigative tasks for the 1993 study, 10 previously recorded sites within the APE were updated, six (6) previously recorded resources were not able to be located during the survey, 27 newly identified resources encountered as a result of the pedestrian survey were documented. Three previously recorded resources were documented to be present within the APE but were inaccessible as the time of the study; these resources were noted but not updated. No cultural resources or historic properties were identified within the current proposed Project site as a result of the 1993 study. No recommendations or mitigation measures were included within the report.

Report SB-05452

Results of a Phase I Cultural Resources Investigation for Approximately 20 Acres of Land (APN 3039-321-10) In the City of Hesperia, San Bernardino County, California (McKenna 2007), documents the results of a Phase I cultural resources investigation, consisting of an archival records search, a literature review, Native American consultation, and an archaeological pedestrian survey. The study also included a paleontological overview. The area of study is adjacent and west of the current proposed Project site. The study was conducted to determine the potential for cultural resources to exist within the footprint of the 20-acre study area. The study identified one prehistoric isolate, P-36-013439, documented as a battered stone artifact. No cultural resources were identified within the current proposed Project site as a result of the 2007 investigation. The report includes the following management recommendations for archaeological resources: if resources are discovered in the future (within the 20-acre study area), a qualified archaeologist should be contacted.

Final EIR for the HCC I Project (SCH No is 2012081016)

Hesperia Commerce Draft Environmental Impact Report SCH#2012081016 (URS 2013), is an environmental document that evaluated the potential environmental effects for the approximately 232-acre (gross) proposed Hesperia Commerce Center in the City of Hesperia. The previously-approved 2013 project analyzed the development of the Hesperia Commerce Center to determine the potential impact of the project, as proposed, including mitigation measures to avoid or significantly reduce the impacts through identified mitigation measures. The 2013 certified EIR subsumes the present approximately 12-acre proposed Project site. The research methods discussed in the cultural resources chapter of the 2013 EIR included a CHRIS records search (completed in June 2011) conducted at the San Bernardino Archaeological Information Center (SBAIC), informal tribal outreach, and a survey.

The SBAIC results identified 19 previous investigations within a 0.5-mile of the Hesperia Commerce Center project boundaries and six (6) previously recorded cultural resources. These previously identified cultural resources consisted of five (5) historic period archaeological sites and one (1) prehistoric isolate, however, the resource numbers and the locations of these resources relative to the present proposed Project site were not provided. Nevertheless, the chapter stated that all six (6) SBAIC identified cultural resources within the 2013 Hesperia Commerce Center records search area “do not meet any of the criteria set forth for listing on the CRHR are afforded no further consideration under CEQA.” In addition to the records search, informal tribal outreach to each NAHC-listed contact was conducted and did not result in any responses or comments. Information regarding the methods

and results of the pedestrian survey conducted was not clearly defined in the chapter, however, the impacts analysis for archaeological resources stated the following: "Although the cultural resources survey was conducted in as thorough a manner as possible, there is always the possibility that previously unidentified archaeological and paleontological resources could be discovered during Project construction and impacts would be potentially significant." As a result of the cultural resources inventory and impacts analysis for the Hesperia Commerce Center, the EIR stated that implementation of mitigation measures CR-1 and CR-[2] would ensure impacts would be less than significant. CR-1 requires the retention of a qualified archaeologist and/or paleontologist to monitor grading activities, including the procedures to follow in the event of an inadvertent discovery. Mitigation measure CR-2 includes the existing regulatory requirements for the inadvertent discovery of human remains during project construction.

3.1.2 Previously Recorded Cultural Resources

The CHRIS records search identified eight (8) previously recorded cultural resources within the proposed Project site. These resources include the following: three (3) historic-period unpaved roads (P-36-004179/CA-SBR-004179H, P-36-004253/CA-SBR-004253H, and P-36-004275/CA-SBR-004275H); a segment of US 395 and associated historic-period refuse scatters (P-36-007545/CA-SBR-007545H); one historic period archaeological site consisting of a can scatter (P-36-007760/CA-SBR-007760H); one prehistoric archaeological site consisting of a lithic scatter (P-36-007759/CA-SBR-007759); one historic-period isolate consisting of glass bottle fragments (P-36-013375); and one prehistoric isolate consisting of a battered cobble of quartz material (P-36-013439). None of these resources are located within or are adjacent to the proposed Project site. Table 2, below, provides a summary of all eight (8) previously recorded cultural resources within the proposed Project's records search area.

Table 2. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Proposed Project Site

Primary (P-36-)	Trinomial (CA-SBR-)	Resource Type and Age	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site
004179	004179H	Built Environment: Historic-period Road	Historic told road known as the Canal Lane Historic Road; unpaved dirt road.	7R: Not evaluated	2009 (ESA), 2007 (CRM Tech), 1980 (Robert Reynolds)	Outside
004253	004253H	Built Environment: Historic-period Road	Historic road known as the Brown's Toll Road; unpaved dirt road.	6Z: Ineligible for NRHP, CRHR, or Local	2016 (ICF), 2011 (SRI), 2010 (Solano Archaeological Services), 2007, 1999 (CRM Tech), 1998 (Archaeological Advisory Group),	Outside

Table 2. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Proposed Project Site

Primary (P-36-)	Trinomial (CA-SBR-)	Resource Type and Age	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site
					1997 (Professional Archaeological Services), 1980 (Robert Reynolds)	
004275	004275H	Built Environment: Historic-period Road	Historic road known as Toll Road-Houghton's Crossing Road; unpaved dirt road.	6Z: Ineligible for NRHP, CRHR, or Local	2010 (Gust, Sherri and Molly Valasik), 2002 (Chambers Group), 1993, 1991 (RMW Paleo Associates), 1980 (Robert Reynolds)	Outside
007545	007545H	Built Environment: Historic-period Road	Historic road known historically as Legislative Route 23 or Three Kings Highway; Common name is US Highway 395; segment documented within the current proposed Project's records search area is paved but road was initially unpaved dirt road; includes roadside historic period refuse scatters.	Segment within the proposed Project's records search area is listed as: 3S: Appears eligible for National Register as an individual property through SurveyLA or other survey evaluation. 3CS: Appears eligible for California Register as an individual property through SurveyLA or other survey evaluation.	2020 (Urbana Preservation and Planning, LLC), 2014 (LSA), 2013 (Far Western), 2013 (Great Basin Sage Inc.), 2010 (AECOM), 2010 (Gust, Sherry and Molly Valasik), 2009 (ESA), 2007 (CRM Tech), 2000 (KEA Environmental), 1997, 1996 (Caltrans), 1993 (Dames and Moore)	Outside
007759	007759	Archaeological Site:	Lithic scatter consists of 13	7R: Not evaluated	1993 (RMW Paleo Associates)	Outside

Table 2. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Proposed Project Site

Primary (P-36-)	Trinomial (CA-SBR-)	Resource Type and Age	Resource Description	NRHP/CRHR Eligibility	Recording Events	Proximity to Proposed Project Site
		Prehistoric lithic scatter	flakes, 1 drill, one core, and 1 spokeshave; materials include quartz, quartzite, metavolcanic, chalcedony, jasper, and chert.			
007760	007760H	Archaeological Site: Historic-period refuse scatter	Refuse scatter consists of 29 cans and consists of the following known types: hole-in-cap and friction; other resources include 2 metal pails.	7R: Not evaluated	1993 (RMW Paleo Associates)	Outside
013375	-	Archaeological Isolate: Historic-period	Four glass bottle fragments; sun colored amethyst.	7R: Not evaluated	2007 (CRM Tech)	Outside
013439	-	Archaeological Isolate: Prehistoric	One weathered and battered quartz cobble that exhibits battering at one end.	7R: Not evaluated	2007 (McKenna et al.)	Outside

3.2 Bureau of Land Management (BLM) General Land Office (GLO) Records

A review of Bureau of Land Management (BLM) General Land Office (GLO) Records was conducted to determine the potential land use of the proposed Project site. According to BLM GLO Records, land patent details indicate that 160 acres, which includes the proposed Project site, was granted to Henry H. Pyne, a San Bernardino resident, on January 3, 1895 under Certificate 5086. Mr. Pyne paid a cash fee for the purchase of the land under the provisions of the Act of Congress, referenced in the certificate as “an act of further provision for the sale of the Public Lands.” The certificate (patent) further states that the tract was assigned to Mr. Pyne and his heirs and includes the following excerpt:

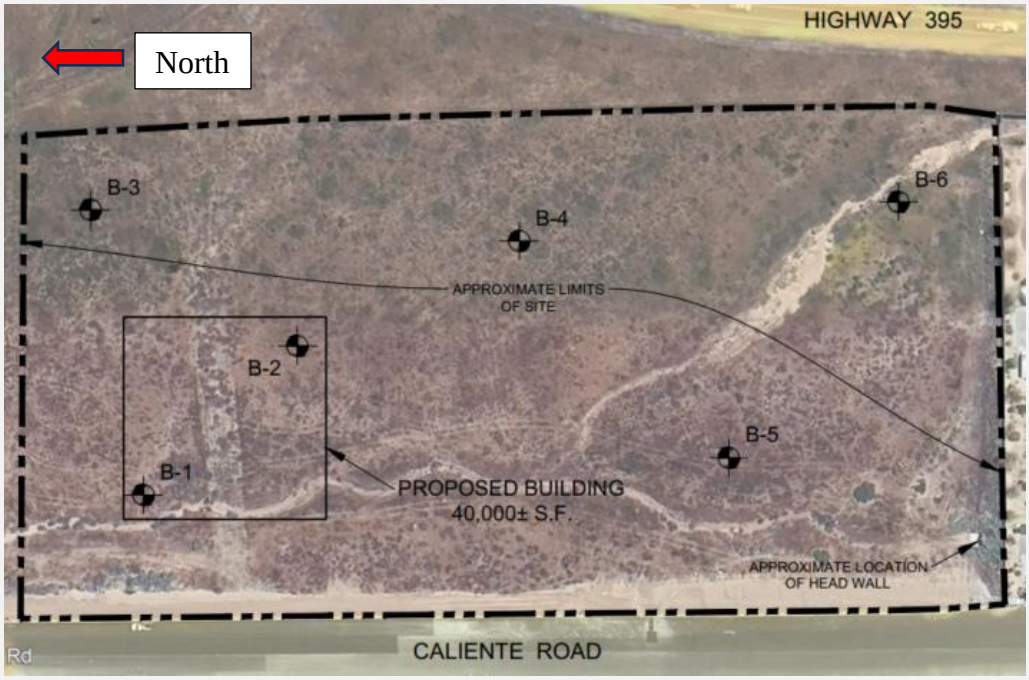
> *...subject to any vested water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledge by the local customs, laws, and decisions of courts, and also subject to the right of the proprietor of a vein or lode to extract and remove his ore therefrom, should some be found to penetrate or intersect the premises herby granted, as provided by law. And there is reserved from the lands herby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.*

The patent was signed by President of the United States, Grover Cleveland. No additional patent records were available through the BLM GLO records for the proposed Project site.

3.3 Geotechnical Report Review

The geotechnical report, *Geotechnical Investigation, Hesperia Commerce Center – Lot 5, Caliente Road, 940± feet south of Joshua Street, Hesperia, California, for Caliente 395 LLC* (SoCalGeo 2023), documents the results of six (6) subsurface exploratory borings (B-1 through B-6) performed by a hollow-stem auger drill rig in July 2023. The borings were placed at accessible locations within the proposed Project site, as depicted in Exhibit 1.

Exhibit 1. Subsurface Exploratory Investigation Locations.



Source: SoCalGeo 2023, Plate 2.

All of the borings encountered younger and older native alluvium. Younger alluvium was encountered from surface to depths between 4.5 and 8± feet bgs and is characterized as loose to medium dense silty fine sands and clayey fine sands with varying medium to coarse sand and fine gravel content. Older alluvium was encountered underlying younger alluvium to maximum depths explored between 10 to 25± feet bgs and is characterized as medium dense

to very dense fine to coarse sands with varying silt, clay, and gravel content, with an occasional zone or hard fine sandy clay.

Results of the geotechnical reports indicate that should cultural deposits exist within the current proposed Project site, they have the potential of being encountered at all proposed depths of ground disturbance. Cultural deposits typically exist within A soil horizon (top soil) and B soil horizon (subsoil) soils. Locations not exposed to recent alluvial deposits usually extend to an approximate depth of 6 feet bgs. However, in areas where environmental conditions include alluvial activity, the depth where cultural material can be found has the potential of being considerably deeper.

3.3 Review of Historical Topographic Maps and Aerial Photographs

Dudek consulted historical topographic maps and aerial photographs through the Nationwide Environmental Title Research, LLC (NETR) to better understand any natural or human-made changes to the proposed Project site and surrounding properties over time.

3.3.1 Topographic Maps

Topographic maps depict elevation of the study area as well as the areas surrounding it and illustrate the location of roads and some buildings. Although topographic maps are not comprehensive, they are another tool in determining whether a study area has been disturbed and at times to what approximate depth. A review of available topographic maps was conducted and includes the following years: 1902, 1906, 1912, 1923, 1936, 1942, 1945, 1957, 1963, 1969, 1980, 1985, 1988, 1999, 2012, 2015, 2018, and 2021 (NETR 2023a). Table 3, below, summarizes the results of the topographic map review of the proposed Project site and surrounding properties for all available years.

Table 3. Historical Topographic Map Review

Year	Description
1902-1963	The proposed Project site is illustrated as undeveloped.
1969	Although the proposed Project site is illustrated as undeveloped, there are two north-south trending roads that appear in close vicinity to the west and east of the proposed Project site, which correspond with present-day roads Caliente Road (to the west) and Highway 395 (to the east). There is also a more distant east-west trending road on the 1969 topographic map to the north of the proposed Project site, which corresponds with present-day Joshua Street.
1980-1999	These maps depict what is represented in the 1969 topographic map.
2012	This topographic map depicts the proposed Project site as undeveloped, but with the notable change of a structure to the south of the proposed Project site. The structure appears to be the present-day San Bernardino County Fire Station 305.
2015-2021	These maps depict what is represented in the 2012 topographic map.

While topographic maps are informative, they do not illustrate the minute changes that can occur to a landscape overtime and at times, are inconsistent with what is depicted year to year. Most often, structures depicted in topographical maps

are limited to those with community or social significance (e.g. Firehouses or Hospitals), including additions or changes to roads and/or waterways. Nonetheless, the information gathered contributes to the understanding of the chronological development of a study area.

3.3.2 Aerial Photographs

A review of historical aerial photographs was conducted as part of the archival research effort from the following years: 1938, 1952, 1959, 1968, 1985, 1994, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020 (NETR 2023b). Through careful comparative review of historical aerials, changes to the landscape of a study area may be revealed. Disturbance to the study area is specifically important as it helps determine if soils within the study area are capable of sustaining intact archaeological deposits. Additionally, historical aerials have the potential to reveal whether a study area was subjected to alluvial deposits by way of flooding, debris flows or mudslides, as well as placement of artificial or foreign fill soils that may have buried intact archaeological deposits. Table 4, below, summarizes the results of the aerial photograph review of the proposed Project site and surrounding properties for all available years.

Table 4. Historical Aerial Photograph Review

Year	Observations
1938	Approximately 25 percent of the southern portion of the proposed Project site is captured in the aerial photograph. This portion is shown as undeveloped and located within a desert landscape. The closest visible road is located in the area of present-day US 395; however, this road does not follow the exact same layout as the present-day US 395.
1952 and 1959	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred.
1968	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred. However, there appears to be newly developed trails or off-road activities on the northern end of the proposed Project site. The aerial photograph depicts a north-south trending road, just to the west and outside of the proposed Project site, which corresponds with present-day Caliente Road.
1985 and 1994	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred.
2002	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred. However, approximately 200-250 meters to the south and outside of the Proposed project site, there appears to be some grading/earth moving in the area of the present-day Rush-Truck Centers business. Additionally, approximately 300-350 meters to the northeast and outside of the proposed Project site, there appears to be a parking lot development, which corresponds with the location of the present-day Park and Ride facility.

Table 4. Historical Aerial Photograph Review

Year	Observations
2005	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred. However, to the south and outside of the proposed Project site, the photograph shows the development of present-day Rush-Truck Centers.
2009	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred. However, to the south and outside of the proposed Project site, the photograph displays the development of present-day San Bernardino County Fire Station.
2010	The aerial photograph shows additional trail developments in the southern portion of the proposed Project site.
2012-2020	There are no apparent changes within the proposed Project site that suggests ground disturbance has occurred.

3.4 Native American Coordination

3.4.1 NAHC Sacred Lands File Search

A search of the Native American Heritage Commission (NAHC) Sacred Land Files (SLF) was requested on October 16, 2023 and conducted by Cultural Services Analyst Cameron Vela on December 4, 2023 to determine the presence of any reported Native American cultural resources within the proposed Project site as listed in the NAHC maintained SLF (see Confidential Appendix B). The NAHC SLF records search result was negative. The NAHC identified 27 Native American individuals/entities who would potentially have specific knowledge as to whether or not Native American cultural resources are identified within or near the proposed Project site that could be at-risk. To date, Dudek has not initiated contact with the individuals on the NAHC's contact list, regarding the Project site. Note: Sacred Land Files maintained by the NAHC represent a curation of "ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California" (NAHC 2023) provided by Tribal entities and Native American representatives. For various reasons, Tribal entities and Native American representatives do no not always report sacred lands or TCRs to the NAHC; as such, the NAHC's SLF is not necessarily a comprehensive list of known TCRs and searches of the SLF must be considered in concert with other research and not used as a sole source of information regarding the presence of TCRs. Additionally, results of the SLF provided relate to the general regional area within and surrounding the proposed project site and don't necessarily equate to the existence of resources within the specific area occupied by the proposed project site.

3.5 Cultural Resources Pedestrian Survey

3.5.1 Field Methods

Dudek Staff archaeologist, Brenda Lee Rogers, conducted a pedestrian survey of the Project site on October 6, 2023, using standard archaeological procedures and techniques. The intensive-level survey methods consisted of

a pedestrian survey conducted in parallel transects, spaced no more than 5 meters apart (approximately 16 feet), traversing north to south. The survey area included the entirety of the an approximately 12-acre proposed Project site. The ground surface was inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, groundstone tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of structures and/or buildings (e.g., standing exterior walls, post holes, foundations), and historical artifacts (e.g., metal, glass, ceramics, building materials). In reference to metal cans, these resources were only considered if they were observed to be within discrete deposits or determined to be from a primary depositional location. Careful attention was given to barren ground including at the base of trees and bushes, within access roads, and any subsurface soils exposed by burrowing animals. Ground disturbances such as cut banks, trails, and drainages were also visually inspected for exposed subsurface materials. In areas of dense ground coverage, surface scrapes were occasionally implemented, when necessary, to enhance detection of archaeological materials that may have been obscured on the surface. No artifacts were collected during the survey.

All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California office. All field practices met the Secretary of Interior's standards and guidelines for a cultural resources inventory.

3.5.2 Results

Ground visibility throughout the proposed Project site was variable and ranged from fair to excellent (50 to 100 percent). Soils within the proposed Project site are alluvial soils found on alluvial fans and/or old terraces and formed from mixed alluvium, granitic rocks, and/or volcanic rocks. Vegetation observed on site included desert grasses, bushes, and trees such as creosote bush scrub and Joshua tree and covered approximately 30 percent of the proposed Project site. The proposed Project site is vacant, and the topography of the site consists of gently undulating desert terrain with terraces across the landscape with deep and ephemeral drainages and washes that traverse the proposed Project site from north to south along the western edge and drains into a large culvert to the south, following the drop in elevation within the proposed Project site. The drainage is most pronounced along the northwestern edge of the proposed Project site, then splits into a "Y", with drainages trending to the southwest and southeast corners. Disturbances observed across the site include bioturbation activities, some recreational use of the landscape with evidence of off-highway vehicle (OHV) tracks throughout, and light opportunistic roadside dumping of modern refuse comprised of consumer, household, vehicular, and domestic items. Also observed during the survey were widely dispersed cultural materials consisting of historic-period cans, including ceramic tableware with no visible diagnostic (dateable) traits, and various miscellaneous metal items. None of the resources identified during the survey indicated any association to known homesteads or other uses that may be associated with the patent identified through the BLM GLO Records. Furthermore, a review of historical maps and aerial photographs indicate that the proposed Project site has been vacant and undeveloped since 1902.

The identified resources are located within an environment of informal dirt roads and vehicular tracks and roughly north-south-trending deep and ephemeral drainages along the western half portion of the site as well as a culvert structure at the southwestern end of the proposed Project site. Based on their current context, these resources appear to be a result of opportunistic and episodic refuse dumping that have then been dispersed across the site through natural aeolian and alluvial activities as well as a result of recreational activities. Therefore, these resources were noted but not formally documented on Department of Parks and Recreation (DPR) 523 forms as they appear not be in their primary depositional locations, are within a disturbed context, and are not documented to be

associated with any known historical land uses. Therefore, no further cultural resources considerations are required for these resources.

4 Findings and Conclusions

The specific goals of this report are as follows: to better understand the potential for cultural resources to exist within the proposed Project site through extensive background research and an intensive pedestrian survey; and to consider the potential for cultural resources to exist within and be impacted by implementation of the proposed Project site. The summary of findings for this report and a cultural resources sensitivity analysis are provided below.

4.1 Summary of Findings

The Project includes the construction of an industrial/warehouse building on an approximately 12-acre vacant lot located in the southwestern portion of the City of Hesperia. The proposed Project footprint was previously analyzed in the certified EIR completed in 2013 (State Clearinghouse No. 2012081016). The present proposed Project involves depths of ground disturbance that are expected to extend between 3 to 5 feet below the existing ground surface across the proposed Project site with a not to exceed maximum depth of 15 feet below the existing ground surface for proposed utilities. Based on the geotechnical study prepared for the Project (SoCalGeo 2020, 2021), both native younger and older alluvium was identified throughout the Project site from surface elevation to a maximum depth explored of 25± feet bgs. Younger and older alluvium does have the potential to contain cultural material. A review of historical topographic maps and aerial photographs indicate that the proposed Project site has remained vacant and undeveloped since at least 1902 with minimal disturbances caused by off-site vehicle use, pedestrian trails, illegal dumping, and development surrounding the site. No historic-period archaeological resources or resources of Native American origin were identified within the proposed Project site as a result of the CHRIS records search or pedestrian survey. Results of the NAHC SLF were negative for the presence of Native American heritage resources within the proposed Project site.

4.2 Sensitivity Analysis

The previously recorded historic period resources identified within the proposed Project's 0.5-mile records search radius consist of three (3) historic-period unpaved roads (P-36-004179/CA-SBR-004179H, P-36-004253/CA-SBR-004253H, and P-36-004275/CA-SBR-004275H); a segment of US 395 and associated historic-period refuse scatters (P-36-007545/CA-SBR-007545H); and one (1) historic period archaeological site consisting of a can scatter (P-36-007760/CA-SBR-007760H). All historic period resources are distributed outside of the proposed Project site to the west, southwest, and east. Although historic period resources were identified within the proposed Project site during the archaeological pedestrian survey completed for the proposed Project, these resources were observed to be in disturbed contexts and were determined to not be associated with any known historical land uses. Therefore, no further cultural resources considerations are required for these resources.

The previously recorded prehistoric resources, identified as a result of the CHRIS records search, consist of a prehistoric lithic scatter (P-36-007759/CA-SBR-007759) and an isolated prehistoric resource (P-36-013439) are generally distributed to the southwest and west of the proposed Project site and along the eastern banks for the Oro Grande Wash, respectively. The distribution of resources adjacent to a wash suggests that the resources may

have been carried from their primary deposition during storm events and that their current recorded locations may not accurately reflect the sensitivity of the surrounding area to contain prehistoric resources.

Notwithstanding, the Oro Grande Wash would have been a natural resource that indigenous and historic occupants of the area may have found hospitable to habitation or other activities, increasing the potential for intact archaeological deposits to be located within the proposed Project site. Present site conditions include deep and ephemeral drainages are present along the western half portion of the proposed Project site that drain to a concrete culvert at the southwestern corner. As previously mentioned in Section 3.3 Geotechnical Report Review, cultural deposits typically exist within A soil horizon (topsoil) and B soil horizon (subsoil). Locations not exposed to recent alluvial deposits usually extend to an approximate depth of 6 feet bgs. However, in areas where environmental conditions include alluvial activity, the depth where cultural material can be found has the potential of being considerably deeper.

In consideration of these factors, there is a potential to encounter subsurface intact archaeological deposits at locales and depths within the proposed Project that have not been previously disturbed. In the event that unanticipated archaeological resources that meet the CEQA criteria for a significant historical resource or unique archaeological resource are encountered during Project implementation, there is potential for those resources to be impacted adversely. In that case, the City (acting as Lead Agency under CEQA) could apply the mitigation measures outlined in the mitigation monitoring and reporting program (MMRP) of the 2013 certified EIR (State Clearinghouse No. 2012081016) regarding the inadvertent discovery of cultural (archaeological) resources and human remains. In addition to the mitigation measures for cultural resources and human remains, Dudek recommends additional management considerations, which are provided below, to ensure that impacts to unanticipated archaeological resources would be less than significant.

5 Management Recommendations

In concert with the mitigation measures for the preservation and protection of archaeological resources as outlined in the MMRP of the 2013 the certified EIR (State Clearinghouse No. 2012081016), Dudek recommends the following management considerations to ensure proper treatment of any unknown archaeological resources that may be encountered as a result of Project construction. These measures and recommendations would ensure the proper treatment of any archaeological resources during ground disturbing activities.

Additionally, adherence to the existing mitigation measures for the inadvertent discovery of human remains as outlined under MM-CR-2 in the MMRP of the 2013 certified EIR would ensure that any potential impacts to unknown human remains within the proposed Project site would be less-than-significant.

With the proper implementation of the prescribed measures and recommendations, the potential impact to archaeological resources and human remains is considered to be less then significant.

Inadvertent Discovery of Cultural Resources

Cultural Resources Mitigation Measures Outlined in the MMRP of the Certified EIR (State Clearinghouse No. 2012081016):

> **MM-CR-1.** Although the cultural resources survey was conducted in as thorough a manner as possible, there is always the possibility that previously unidentified archaeological resources could be discovered during Project construction. Prior to the issuance of grading permits, the property owner or Project contractor will be responsible to retain the services of a qualified archaeologist, who shall monitor grading activities during Project construction. In the event that any prehistoric or historic-period cultural resources (chipped or ground stone lithics, animal bone, ashy midden soil, structural remains, historic glass or ceramics, etc.) are discovered, the Project contractor will be responsible to cease all work in the vicinity and wait until the archaeologist has evaluated the significance of the find and has removed the resource as required by law.

Dudek Recommendations for Inadvertent Discovery of Cultural Resources:

Mitigation measure MM-CR-1 is folded into the recommendations provided below.

Workers Environmental Awareness Program (WEAP) Training. All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, Tribal representative. Necessity of training attendance should be stated on all construction plans.

On-Call Archaeological Construction Monitoring. In consideration of the general sensitivity of the proposed Project site for cultural resources, a qualified archaeologist should be retained to conduct spot monitoring as well as on call response in the case of an inadvertent discovery of archaeological resources. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the SCCIC with the results of the cultural monitoring program.

Inadvertent Discovery of Archaeological Resources. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under the California Environmental Quality Act (14 CCR 15064.5(f); California PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted. If the discovery is Native American in nature, consultation with and/or monitoring by a Tribal representative may be necessary.

Inadvertent Discovery of Human Remains

Cultural Resources Mitigation Measures Outlined in the MMRP of the Certified EIR (State Clearinghouse No. 2012081016):

MM-CR-2. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made necessary findings as to origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. The following actions must be taken by the property owner or Project contractor in the event that human remains are discovered on private or State land:

- Stop work immediately and contact the County Coroner. The County Coroner must be notified immediately of the find.
- The Coroner has two working days to examine the human remains after being notified. If the remains are determined to be prehistoric or Native American, the coroner shall notify the Native American Heritage Commission within 24 hours.
- The Native American Heritage Commission [commission] will immediately notify the person it believes to be the most likely descendent (MLD) of the deceased Native American. With the permission of the landowner, agency, or an authorized representative, the MLD may inspect the site of the discovery.
- The MLD shall make a recommendation to the owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods.

If the commission is unable to identify a descendent, the descendent identified fails to make a recommendation, or the landowner rejects the recommendations of the descendent and the mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the descendent or the landowner, the landowner or his or her authorized representative shall reinter the human remains

and items associated with the Native American burial(s) with appropriate dignity on the property in a location not subject to further subsurface disturbance.

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6 Bibliography

Bada, Jeffrey L., R. Gillespie, J. A. J. Gowlett, and R. E. M. Hedges. 1984. Accelerator mass spectrometry radiocarbon ages of amino acid extracts from Californian paleoindian skeletons. Nature 312(29):442-444.

Bancroft, Hubert H. 1885. History of Mexico Vol. IV. 1804-1824. In the Works of Hubert Howe Bancroft, Vol. XII. A. L. Bancroft & Company, Publishers, San Francisco.

Basgall, Mark E. 1987. Paleoindian occupation in central-eastern California: the Komodo site. Current Research in the Pleistocene 4:50-54.

1988 The archaeology of CA-MNO-679: a pre-Archaic site in Long Valley Caldera, Mono County, California. In Early human occupation in far western North America: the Clovis-Archaic interface, edited by J. Willig, C. M. Aikens, and J. Fagan. Nevada State Museum, Anthropological Papers 21.

Basgall, Mark E., and Matthew C. Hall. 1990. Adaptive variation in the north-central Mojave Desert. Paper presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas, NV.

1993 Archaeology of the Awl Site, CA-SBR-4562, Fort Irwin, San Bernardino County, California. Submitted to Far Western Anthropological Research Group. Prepared for U.S. Army Corps of Engineers, Los Angeles District.

Basgall, Mark E., L. Johnson, and Micah J. Hale. 2002. An evaluation of four archaeological sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Submitted to Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, Lowell J., and Florence C. Shipek. 1978. Luiseño. In Handbook of North American Indians: Volume 8, California, edited by Robert F. Hiezer, pp. 550-563. Smithsonian Institution Press, Washington DC.

Bean, Lowell J., and C.R. Smith, 1978. “Gabrielino.” In California, edited by R.F. Heizer, 538–548. Vol. 8 of Handbook of North American Indians. Washington, DC: Smithsonian Institution.

Benedict, R.F. 1924. “A Brief Sketch of Serrano Culture.” *American Anthropologist* 26(3): 366–392.

Boscana, G. 1846. “Chinigchinich; A Historical Account of the Origin, Customs, and Traditions of the Indians at the Missionary Establishment of St. Juan Capistrano, Alta California.” In Life in California, by A. Robinson, 227–341. New York, New York: Wiley & Putnam.

Byrd, Brian F., and Seetha N. Reddy. 2002. Late Holocene adaptations along the northern San Diego coastline: new perspectives on old paradigms. In Catalysts to complexity: late Holocene societies of the California coast, edited by Jon M. Erlandson, and Terry L. Jones, pp. 41-62. Cotsen Institute of Archaeology, University of California, Los Angeles, Los Angeles.

City of Hesperia. 2010.*Hesperia General Plan Update*. https://www.cityofhesperia.us/DocumentCenter /View/15728/General-Plan-Update-August-2019

Cleland, Robert Glass. 2005. *The Cattle on a Thousand Hills: Southern California, 1850-80*, second ed., sixth printing. The Huntington Library, San Marino, California.

Dallas, S. F. 1955. *The Hide and Tallow Trade in Alta California 1822–1848*. Ph.D. dissertation, Indiana University, Bloomington

Davis, Emma Lou. 1978. The ancient Californians: Rancholabrean hunters of the Mojave Lakes country. Natural History Museum of Los Angeles County Science Series No. 29, Los Angeles.

DeBarros, P. 2004. *Cultural Resources Overview and Management Plan – Rancho Las Flores Project, Hesperia, San Bernardino County, California*. On file at the South Central Coast Information Center.

Erlandson, Jon M., Torben C. Rick, Terry L. Jones, and Judith F. Porcasi. 2007. One if by land, two if by sea: who were the first Californians? In California Prehistory: colonization, culture, and complexity, edited by Terry L. Jones, and Kathryn A. Klar, pp. 53-62. Alta Mira Press, Lanham, MD.

Fitzgerald, Richard T., and Michael F. Rondeau. 2012. A fluted projectile point from Crystal Cove State Park, Orange County, Alta California. California Archaeology 4(2):247-256.

Gallegos, Dennis R. (editor). 1987. San Dieguito-La Jolla: chronology and controversy. San Diego County Archaeological Society, Research Paper No. 1, San Diego.

2017. First people: a revised chronology for San Diego County. StorySeekers, San Diego.

Golla, V. 2007. “Linguistic Prehistory.” In California Prehistory: Colonization, Culture, and Complexity, edited by T.L. Jones and K.A. Klar, 71–82. New York, New York: Altamira Press.

Google. 2023. Google Earth; desktop application; Elevation for the Project site. Accessed November 2023. https://www.google.com/earth/.

Grenda, Donn R. 1997. Site structure, settlement systems, and social organization at Lake Elsinore, California. PhD, Anthropology, University of Arizona, Tucson, AZ

Griset, Suzanne. 1996. Southern California brown ware. PhD, Anthropology, University of California, Davis, Davis.

Gumprecht, Blake. 1999. *The Los Angeles River: Its Life, Death, and Possible Rebirth*. The Johns Hopkins University Press, Baltimore, Maryland.

Hale, Micah J. 2001. Technological organization of the Millingstone Pattern in southern California. MA, Anthropology, California State University, Sacramento, Sacramento.

2009. Santa Barbara and San Diego: contrasting adaptive strategies on the southern California coast. PhD, Anthropology, University of California, Davis, Davis, California.

Hallan-Gibson, Pamela. 1986. *Orange County - The Golden Promise, and illustrated history*. Windsor Publications, Northridge, California.

Harrington, J.P. 1934. "A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southern California." Smithsonian Miscellaneous Collections 92(4).

Heizer, R.F. 1978. "Introduction." In California, edited by R.F. Heizer, 1–6. Vol. 8 of Handbook of North American Indians. Washington, DC: Smithsonian Institution.

Heizer, R.F. and K.M. Nissen. 1973. The Human Sources of California Ethnography. Berkeley, California: University of California, Berkeley Archaeological Research Facility.

ICF. 2013. (ICF International, Davis Geoarchaeological Research, Southeastern Archaeological Research) Inventory and analysis of coastal and submerged archaeological site occurrence on the Pacific Outer Continental Shelf. Submitted to U.S. Department of the Interior, Bureau of Ocean Energy Management, Pacific OCS Region, Camarillo, California.

Johnson, J.R., and J.G. Lorenz. 2006. "Genetics, Linguistics, and Prehistoric Migrations: An Analysis of California Indian Mitochondrial DNA Lineages." Journal of California and Great Basin Anthropology 26: 33–64.

Kennedy, Gail E. 1983. An unusual burial practice at an early California Indian site. Journal of New World Archaeology 5(3):4-7.

Kroeber, A. 1925. Handbook of the Indians of California. Washington DC: Smithsonian Institution.

Kyle, Douglas E. 2002. *Historic Spots in California*. 5th ed. Stanford University Press, Stanford, California.

Laylander, D. 2000. Early Ethnography of the Californias, 1533–1825. Salinas, California: Coyote Press Archives of California Prehistory.

Laylander, D. 2010. "Linguistic Prehistory." Research Issues in San Diego Prehistory. Accessed August 31, 2012. http://www.sandiegoarchaeology.org/Laylander/Issues /index.htm

Lightfoot, K.G. 2005. Indians, missionaries, and merchants: the legacy of colonial encounters on the California frontiers. Berkeley, California: University of California Press.

Love, Bruce, Bai, Tom Tang, Daniel Ballester, and Mariam Dahdul. 2002. Historical/Archaeological Resources Survey Report: North Apple Valley Interceptor, In and Near the Cities of Apple Valley and Victorville, San Bernadino County, California. On file at the South Coastal Information Center, located on the campus of California State University, Fullerton. Accessed November 2023.

Lyman, Edward Leo. 2000. The Story of Victor Valley. Heritage Media Corporation. Carlsbad, California.

McDonald, Meg, and James D Eighmey. 2004. Late Period prehistory in San Diego. Submitted to Prehistoric and historic archaeology of metropolitan San Diego: an historic properties background study, prepared for Metropolitan Wastewater Department, San Diego, California, by ASM Affiliates, Inc., Carlsbad, California.

Middlebrook, John-Robin. 2005. "History of Orange County, California." *Legends of America* webpage. Published 2005, updated 2019. Accessed April 2021. https://www.legendsofamerica.com/ca-orangecounty/

National Archives. 2022. Milestone Documents: Homestead Act (1862). Accessed August 2023. https://www.archives.gov/milestone-documents/homestead-act#:~:text=Passed%20on%20May%2020%2C%201862,continuous%20residence%20on%20that%20land.

Native American Heritage Commission (NAHC). 2023. About the Native American Heritage Commission. State of California Native American Heritage Commission, 2021, http://nahc.ca.gov/about/. Accessed 22 Nov. 2023.

NETR (Nationawide Environmental Title Research). 2023a. Historical Topographic Maps of the HCC I Lot 5 Project, City of Hesperia, California, dating from 1902, 1906, 1912, 1923, 1936, 1942, 1945, 1957, 1963, 1969, 1980, 1985, 1988, 1999, 2012, 2015, 2018, and 2021. Accessed November 2023. https://www.historicaerials.com/viewer

NETR (Nationawide Environmental Title Research). 2023b. Historical Aerial Photographs of the I HCC I Lot 5 Project, City of Hesperia, California, dating from 1938, 1952, 1959, 1968, 1985, 1994, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2018, and 2020. Accessed November 2023. https://www.historicaerials.com/viewer

Rogers, Alexander K., and Robert M. Yohe. 2020. Obsidian hydration dating of proposed Paleoindian artifacts from Tulare Lake, California. California Archaeology 12(2):223-239.

Rogers, Malcom J. 1945. An outline of Yuman prehistory. Southwestern Journal of Anthropology 1(2):167-198.

Schaefer, Jerry. 2012. Coastal brown ware ceramics from Camp Pendleton, San Diego County. Pacific Coast Archaeological Society Quarterly 48(1 & 2):25-46.

SoCalGeo (Southern California Geotechnical) 2023. Geotechnical Investigation, Hesperia Commerce Center – Lot 5, Caliente Road, 940± feet south of Joshua Street, Hesperia, California, for Caliente 395 LLC. Prepared for Caliente 395 LLC.

Sparkman, P. 1908. “The Cultural of the Luiseño Indians.” University of California Publications in American Archaeology and Ethnology 8: 187–234.

USDA (U.S. Department of Agriculture). 2023a. Natural Resources Conservation Service Web Soil Survey. Accessed October 2023. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

USDA. 2023b. Natural Resources Conservation Service Official Soil Series Descriptions. Accessed October 2023. https://soilseries.sc.egov.usda.gov/OSD_Docs/H/HESPERIA.html.

USGS (United States Geological Society). 2023. Mineral Resources Online Spatial Data. Interactive maps and downloadable data for regional and global analysis. Accessed October 2023. https://mrdata.usgs.gov/

Wallace, William J. 1955. A suggested chronology for Southern California coastal archaeology. Southwestern Journal of Anthropology 11(3):214-230.

Warren, Claude N. 1964. Cultural change and continuity on the San Diego Coast. PhD, Anthropology, University of California, Los Angeles, Los Angeles.

Warren, Claude N. 1968. Cultural tradition and ecological adaptation on the southern California coast. Eastern New Mexico University Contributions in Anthropology 1(3):1-15.

Warren, Claude N., Gretchen Siegler, and Frank Dittmer. 2004. Paleoindian and early Archaic periods. Submitted to Prehistoric and historic archaeology of metropolitan San Diego: an historic properties background study, prepared for Metropolitan Wastewater Department, San Diego, California, by ASM Affiliates, Inc., Carlsbad, California.

Waugh, John C. 2003. On the Brink of Civil War: The Compromise of 1850 and How It Changed the Course of American History. Scholarly Resources Inc., Wilmington, Delaware.

White, R. 1963. “Luiseño Social Organization.” University of California Publications in American Archaeology and Ethnology 48: 91–194.

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Appendix A
Confidential SCCIC Records Search Results

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Appendix B
NAHC SLF Search Results

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
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Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
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nahc@nahc.ca.gov
NAHC.ca.gov

December 1, 2023

Jennifer De Alba
DUDEK

Via Email to: jdealba@dudek.com

Re: 15480 HCCI 1 Lot 5 Project, San Bernardino County

Dear Ms. De Alba:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

Appendix D

Paleontological Resources Inventory Memorandum

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

November 21, 2023 15480

Danielle Graham
COVINGTON DEVELOPMENT PARTNERS
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Subject: Paleontological Resources Inventory Memorandum for the HCC I Lot 5 Project, City of Hesperia, San Bernardino County, California

Dear Danielle:

This memorandum documents the results of the paleontological resources inventory conducted by Dudek in support of the proposed HCC I Lot 5 Project (project) in the City of Hesperia (City), San Bernardino County, California. The approximately 12-acre project site is in located east of Caliente Road and northwest of the Interstate-15 and Highway 395 interchange (Figure 1 – Project Location).

The project area is located within the Mojave Desert Geomorphic Province (AECOM [formerly URS Corporation], 2008), which is characterized by rugged mountain ranges with intervening alluvial fans, bajadas, and valleys that have no drainage to the ocean (California Geological Survey [CGS] 2002). According to surficial geological mapping by Dibblee and Minch (2008) at a 1:62,500 scale and the geological time scale of Cohen et al. (2023), the project area is underlain by Holocene (< 11,700 years ago) alluvial sand (map unit Qa) and Pleistocene (approximately 11,700 years ago – 2.58 million years ago) Shoemaker Gravel (map unit Qof). Holocene alluvial sand of the Oro Grande Wash is characterized as an unconsolidated mixture of sand and gravel from the mountains. The Pleistocene Shoemaker Gravel is composed of older alluvial fan gravel that is weakly consolidated and weakly bedded (Dibblee and Minch, 2008).

Dudek requested a paleontological records search from the Natural History Museum of Los Angeles County (NHMLA) on September 8, 2023 and the results were received on October 1, 2023. A records search was also requested from the San Bernardino County Museum (SBCM) on September 1, 2023, and the results were received on October 12, 2023. The NHMLA and the SBCM reported that they had no recorded fossil localities from within the project area; however, they have nearby localities from sedimentary deposits that underlie the project area.

The NHMLA reported two Los Angeles County Museum (LACM) Vertebrate Paleontology (VP) localities from the Pleistocene Shoemaker Gravel: LACM VP 1224 produced an unknown genus and species of camel (Camelidae) and LACM VP 3353 produced a horse (*Equus*) (NHMLA, 2023). Another nearby locality, LACM VP 7786, from Pleistocene alluvium was also reported as producing a vole (*Microtus mexicanus*) from 10 to 11 feet below the ground surface (bgs). LACM VP localities 5942-5950 were discovered 0-9 feet bgs and produced the following taxa: kingsnake (*Lampropeltis*), lizard (Lacertilia), leopard lizard (*Gambelia*), snake (Ophidia), gopher snake (*Pituophis*), birds (Aves), rabbit (Lagomorpha), rodent (Rodentia), pocket gopher (*Thomomys*), pocket mouse (*Chaetodippus*), and kangaroo rat (*Dipodomys*) (NHMLA, 2023). The SBCM also has recorded paleontological resource localities from the area (SBCM, 2023). Pleistocene age megafaunal remains, including specimens of mammoth, mastodon, sabertooth cat,

camel, horse, bison, and ground sloth, have been discovered throughout San Bernardino County, as well as microfossil localities, containing rodents (Reynolds and Reynolds, 1991; SBCM, 2023).

A field survey of the project area was conducted on September 6, 2023 by Samuel Allen of Dudek. In addition to examining the project area for paleontological resources, Mr. Allen searched for outcrops to field check mapped geological units (Appendix B).

No paleontological resources were identified within the project area as a result of the institutional records searches or desktop geological and paleontological review. In addition, the project area is not anticipated to be underlain by unique geologic features. The Holocene alluvial deposits, aged less than 11,700 years ago, are generally too young to produce any fossil resources and therefore have low paleontological sensitivity. However, Pleistocene age deposits, such as the Shoemaker Gravel, are mapped across the majority of the project area and may be encountered at depth. The Shoemaker Gravel has a high paleontological sensitivity. If intact paleontological resources are located onsite, ground-disturbing activities associated with construction of the proposed project, such as large diameter (two feet or greater) drilling, grading during site preparation, and trenching for utilities, have the potential to destroy a unique paleontological resource or site. As such, the project area is considered to be potentially sensitive for paleontological resources, and without mitigation, the potential damage to paleontological resources during construction associated with the project is considered a potentially significant impact. Given the proximity of past fossil discoveries in the surrounding area within the Pleistocene age deposits, the project area is highly sensitive for supporting paleontological resources below the depth of fill (if present) and Holocene alluvial deposits. However, upon implementation of **MM-CR-1**, impacts would be reduced to below a level of significance (City of Hesperia, 2013). Impacts of the proposed Project are considered **less than significant with mitigation incorporated** during construction**.**

Cultural Resources Mitigation Measure CR-1 Outlined in the City of Hesperia (2013) EIR (State Clearinghouse No. 2012081016):

> **MM-CR-1.** Although the cultural resources survey was conducted in as thorough a manner as possible, there is always the possibility that previously unidentified archaeological and paleontological resources could be discovered during Project construction. Prior to the issuance of grading permits, the property owner or Project contractor will be responsible to retain the services of a qualified archaeologist and/or paleontologist, who shall monitor grading activities during Project construction. In the event that any prehistoric or historic-period cultural resources (chipped or ground stone lithics, animal bone, ashy midden soil, structural remains, historic glass, ceramics, or fossils, etc.) are discovered, the Project contractor will be responsible to cease all work in the vicinity and wait until the archaeologist and/or paleontologist has evaluated the significance of the find and has removed the resource as required by law.

Dudek Recommendations for Inadvertent Discovery of Paleontological Resources:

> Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness

training, where monitoring is required within the proposed Project area based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in previously undisturbed, fine-grained Pleistocene alluvial deposits. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Any associated laboratory and museum curation fees are the responsibility of the project proponent/applicant.

Should you have any questions relating to this report and its findings please contact Michael Williams (mwilliams@dudek.com) or Sarah Siren (ssiren@dudek.com).

Respectfully Submitted,

Sincerely,

Sarah Siren, MSc
Paleontologist

Michael Williams, PhD
Paleontologist

Att.: *Figure 1, Regional Location Map*
Attachment A, Confidential Paleontological Records Search Results
Attachment B Field Survey Photograph

cc: *Hayley Ward, Dudek*

References

AECOM (formerly URS Corporation), 2008. Report of Geotechnical Investigation and Geological/Seismic Hazards Evaluation, Proposed Caliente Road Industrial Buildings Hesperia, California for Covington Capital, URS Project No. 38001156.

California Geological Survey (CGS). 2002. California Geomorphic Provinces: Note 36. 4 pp. Available; https://koordinates.com/layer/97118-california-geomorphic-provinces/.

City of Hesperia, 2013. Hesperia Commerce Center Draft Environmental Impact Report SCH#2012081016. Revised November, 2013.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan. 2023. "The ICS International Chronostratigraphic Chart." Episodes 36: 199––204. 2013; updated. Available at: https://stratigraphy.org/ICSchart/ChronostratChart2023-06.pdf

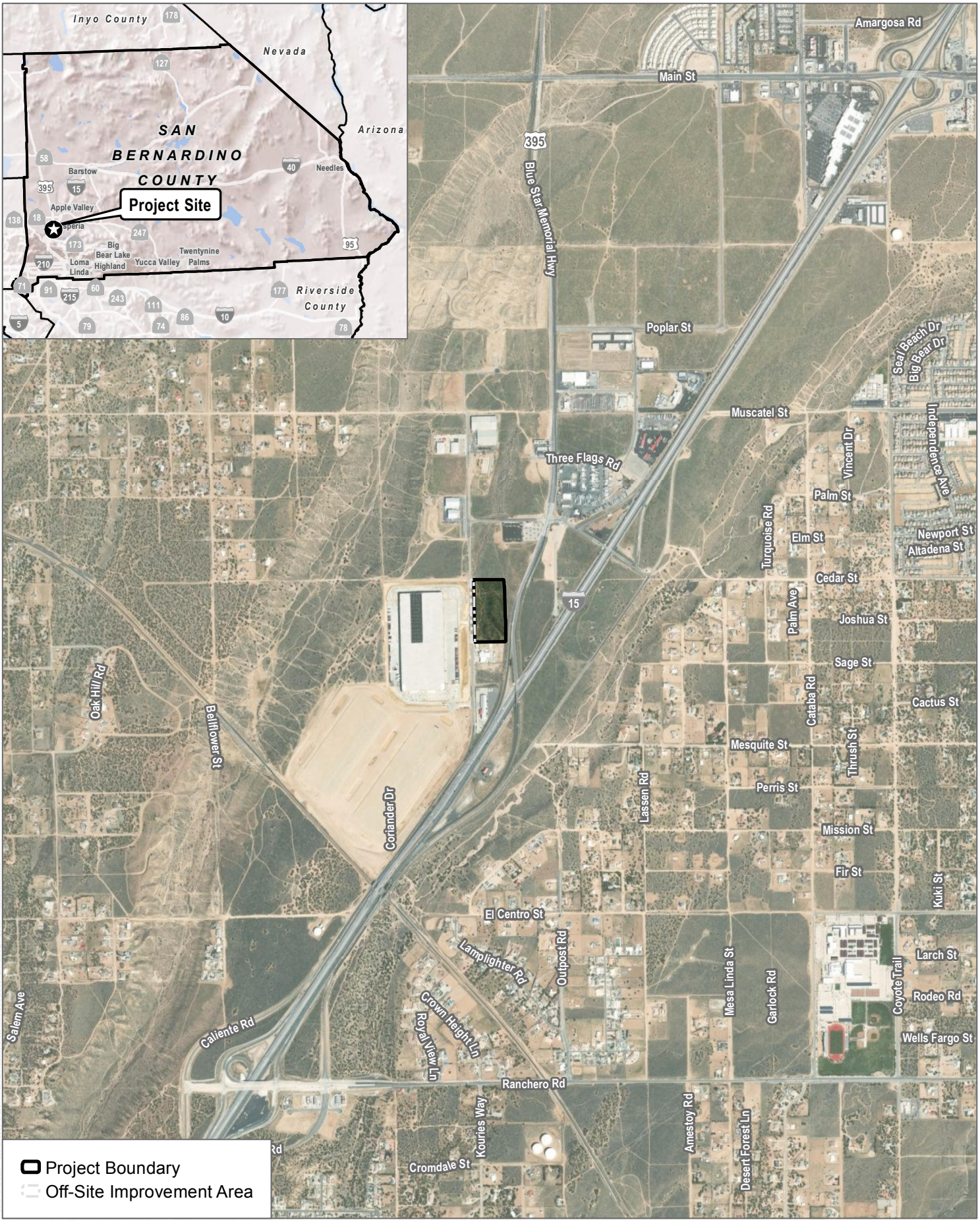
Dibblee, T.W. and Minch, J.A. 2008. Geologic Map of the Hesperia 15-Minute Quadrangle, San Bernardino County, California. Dibblee Geological Foundation, Dibblee Foundation Map DF-382, scale 1:62,500.

Natural History Museum of Los Angeles County (NHMLA). 2023. Unpublished Records Search Results Letter from the Natural History Museum of Los Angeles County, Los Angeles, California. October 1, 2023

Reynolds, R.E. and R.L. Reynolds, 1991. The Pleistocene Beneath Our Feet: Near-Surface Pleistocene Fossils from Inland Southern California Basins. San Bernardino County Museum Association Quarterly 38(3&4):41-43.

San Bernardino County Museum (SBCM) 2023. Paleontology Records Review for site of HCC Project, San Bernardino County, California. Unpublished records search results prepared by Kottkamp, S. of the San Bernardino County Museum, Section of Geological Sciences.

Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. 11 p. Available; http://vertpaleo.org/PDFS/68/68c554bb-86f1-442f-a0dc-25299762d36c.pdf.



SOURCE: ESRI Imagery 2023; Open Street Map 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

HCC 1 Lot 5 Project

Attachment A

Paleontological Records Search Results (Confidential)

Attachment B
Field Survey Photograph

Photograph 1: Exposure of alluvium located in the west-central portion of the project area, consisting of light to medium brown, moderately to poorly sorted, sand and silt with gravel. Scale bar is approximately 4 feet. Photograph taken by S. Allen.

Appendix E
Geotechnical Investigation

GEOTECHNICAL INVESTIGATION
HESPERIA COMMERCE CENTER – LOT 5

Caliente Road, 940± feet south of Joshua Street
Hesperia, California
for
Caliente 395 LLC

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

November 9, 2023

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Caliente 395 LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Attention: Danielle Graham
Project Manager/Office Manager

Project No.: **23G166-3**

Subject: **Geotechnical Investigation**
Hesperia Commerce Center – Lot 5
Caliente Road, 940± feet south of Joshua Street
Hesperia, California

Dear Ms. Graham:

In accordance with your request, we have conducted a geotechnical investigation at the subject site. We are pleased to present this report summarizing the conclusions and recommendations developed from our investigation.

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

Pablo Montes Jr.
Project Engineer

Robert G. Trazo, M.Sc., GE 2655
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
ROBERT TRAZO
No. 2655
GEOTECHNICAL
STATE OF CALIFORNIA

Distribution: (1) Addressee

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APPENDICES

A Plate 1: Site Location Map
Plate 2: Boring Location Plan
B Boring Logs
C Laboratory Test Results
D Grading Guide Specifications
E Seismic Design Parameters

1.0 EXECUTIVE SUMMARY

Presented below is a brief summary of the conclusions and recommendations of this investigation. Since this summary is not all inclusive, it should be read in complete context with the entire report.

Site Preparation Recommendations

- Site stripping will be necessary to remove the existing native grass and shrub growth which is present throughout the majority of the site. Any root masses should be removed in their entirety. All vegetation and any organic topsoil should be removed during site stripping.
- The soils encountered at the boring locations consist of younger native alluvium, underlain by older alluvium. The near-surface younger alluvium generally possesses varying densities and strengths. Results of laboratory testing indicate that some of the near-surface younger alluvium possesses a moderate potential for collapse when inundated with water. Based on these considerations, remedial grading is recommended to be performed within the proposed building area in order to remove a portion of the near-surface native alluvium and replace these materials as compacted structural fill.
- The existing soils within the proposed building area should be overexcavated to a depth of 5 feet below existing grades and to a depth of 3 feet below proposed pad grades. The proposed foundation influence zones should be overexcavated to a depth of at least 3 feet below proposed foundation bearing grade. **Based on the soils identified at Boring No. B-8, additional removals may be necessary if loose soils are encountered within the existing drainage course area, where deeper younger alluvial soils may be present extending to depths of 5½ to 12± feet.**
- After the overexcavation has been completed, the resulting subgrade soils should be evaluated by the geotechnical engineer to identify any additional soils that should be overexcavated. The resulting soils should be scarified and moisture conditioned to achieve a moisture content of 0 to 4 percent above optimum moisture, to a depth of at least 12 inches. The overexcavation subgrade soils should then be recompacted under the observation of the geotechnical engineer. The previously excavated soils may then be replaced as compacted structural fill.
- The new pavement and flatwork subgrade soils are recommended to be scarified to a depth of 12± inches, thoroughly moisture conditioned and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.

Building Foundation Recommendations

- Spread footing foundations, supported in newly placed structural fill soils.
- Maximum, net allowable soil bearing pressure: 2,500 lbs/ft^2.
- Reinforcement consisting of at least two (2) No. 5 rebars (1 top and 1 bottom) in strip footings. Additional reinforcement may be necessary for structural considerations.

Building Floor Slab Recommendations

- Conventional Slab on Grade, at least 6 inches thick.
- Modulus of Subgrade Reaction: k = 150 psi/in.
- Reinforcement is not considered to be necessary for geotechnical considerations.

- The actual thickness and reinforcement of the floor slab should be determined by the structural engineer, based on the imposed slab loading.

Pavements

ASPHALT PAVEMENTS (R=38)					
Materials	**Thickness (inches)**				
	Auto Parking and Auto Drive Lanes (TI = 4.0 to 5.0)	Truck Traffic			
		TI = 6.0	TI = 7.0	TI = 8.0	TI = 9.0
Asphalt Concrete	3	3½	4	5	5½
Aggregate Base	5	6	8	9	11
Compacted Subgrade	12	12	12	12	12

PORTLAND CEMENT CONCRETE PAVEMENTS (R=38)				
Materials	**Thickness (inches)**			
	Autos and Light Truck Traffic (TI = 6.0)	Truck Traffic		
		TI = 7.0	TI = 8.0	TI = 9.0
PCC	5	5½	6½	8
Compacted Subgrade (95% minimum compaction)	12	12	12	12

2.0 SCOPE OF SERVICES

The scope of services performed for this project was in accordance with our Proposal No. 23P315R, dated July 11, 2023, and Changer Order No. 23G166-CO, dated September 13, 2023. The scope of services included a visual site reconnaissance, subsurface exploration, field and laboratory testing, and geotechnical engineering analysis to provide criteria for preparing the design of the building foundations, building floor slab, and parking lot pavements along with site preparation recommendations and construction considerations for the proposed development. The evaluation of the environmental aspects of this site was beyond the scope of services for this geotechnical investigation.

3.0 SITE AND PROJECT DESCRIPTION

3.1 Site Conditions

The subject site is located on the east side of Caliente Road, 940± feet south of Joshua Street in Hesperia, California. The site is bounded to the north by a vacant lot, to the east by Highway 395, to the south by the San Bernardino County Fire Station 305, and to the west by Caliente Road. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of a rectangular-shaped parcel, 11± acres in size. The site is vacant and undeveloped. Ground surface cover throughout the site consists of exposed soil with moderate to heavy native grass and weed growth with some shrubs. A drainage course is located in the western region of the site. The drainage course runs in a south to north direction, beginning from a storm drain headwall located in the southwest region of the site, downward towards another existing headwall located in the northwest region of the site.

Our office reviewed the Conceptual Grading Plan prepared by WestLand Group, Inc. (WestLand), the project civil engineer. Based on the topographic information provided in this plan, the overall site topography slopes downward to the north at gradients of 1 to 2± percent. However, the overall site topography is generally lower in elevation than the adjacent public ways and adjacent properties surrounding the site. At the project boundaries, the existing grades slope up to the property lines at inclinations ranging from 2h:1v (horizontal to vertical) to 1h:1v. In the western region of the site, the site topography slopes into the drainage course at gradients ranging from of 10 to 20± percent with some isolated steeper embankments. Grades within the drainage course are lower in elevation than the remainder of the site by 5 to 16± feet.

The overall site topographic elevation low of 3,685± feet mean sea level (msl) is located within the drainage course in the northwest region of the site. The topographic high of 3,715± feet msl elevation is in the southern region of the site. An existing slope is located along the southern boundary of the site. The slope ranges in height from 6 to 12± feet and possesses a maximum inclination of 2h:1v (horizontal to vertical). There is approximately 15 to 30 feet of elevation differential across the overall site.

3.2 Proposed Development

Based on a conceptual site plan provided by the client and prepared by RGA, the site will be developed with one (1) new commercial/industrial building, 150,000± ft^2 in size, located in the northwest area of the site. The building is expected to be constructed with dock-high doors along the east portion of the building wall. The remaining areas of the site will be developed with asphaltic concrete pavements in the automobile parking and drive areas, with Portland cement concrete pavements in the truck court and truck traffic areas.

Detailed structural information has not been provided. It is assumed that the new building will be a single-story structure of tilt-up concrete construction, typically supported on a conventional shallow foundation with a concrete slab-on-grade floor. Based on the assumed construction, maximum column and wall loads are expected to be on the order of 100 kips and 4 to 7 kips per linear foot, respectively.

No significant amounts of below-grade construction, such as basements or crawl spaces, are expected to be included in the proposed development. Based on the Conceptual Grading Plan prepared by WestLand, cuts of up to 7± feet, and fills of roughly 4 to 20± feet are expected to be necessary to achieve the proposed site grades. It is expected that cut slopes and fill slopes along with new retaining walls will be required in order to achieve the new site grades.

4.0 SUBSURFACE EXPLORATION

4.1 Scope of Exploration/Sampling Methods

The subsurface exploration performed for this project consisted of nine (9) borings (identified as Boring Nos. B-1 through B-9) advanced to depths of 10 to 50± feet below the existing site grades. All of the borings were logged during drilling by a member of our staff.

The borings were advanced with hollow-stem augers, by a conventional truck-mounted drilling rig. Representative bulk and relatively undisturbed soil samples were taken during drilling. Relatively undisturbed samples were taken with a split barrel "California Sampler" containing a series of one-inch-long, 2.416± inch diameter brass rings. This sampling method is described in ASTM Test Method D-3550. Samples were also taken using a 1.4±-inch inside diameter split spoon sampler, in general accordance with ASTM D-1586. Both of these samplers are driven into the ground with successive blows of a 140-pound weight falling 30 inches. The blow counts obtained during driving are recorded for further analysis. Bulk samples were collected in plastic bags to retain their original moisture content. The relatively undisturbed ring samples were placed in molded plastic sleeves that were then sealed and transported to our laboratory.

The approximate locations of the borings are indicated on the Boring Location Plan, included as Plate 2 in Appendix A of this report. The Boring Logs, which illustrate the conditions encountered at the boring locations, as well as the results of some of the laboratory testing, are included in Appendix B.

4.2 Geotechnical Conditions

Younger Alluvium

All of the borings encountered native younger alluvial soils at the ground surface, extending to depths ranging from 4½ to 8± feet below existing site grades. The younger alluvial soils generally consist of loose to medium dense silty fine sands and clayey fine sands with varying medium to coarse sand and fine gravel content.

Older Alluvium

Native older alluvium was encountered beneath the younger alluvium at all of the boring locations, extending to at least the maximum explored depth of 50± feet below existing site grades. The older alluvial soils consist of medium dense to very dense fine to coarse sands with varying silt, clay, and gravel content, with occasional zone or hard fine sandy clay lenses. One of the samples of the older alluvial was strongly cemented.

Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the lack of any water within the borings and the moisture contents of the recovered soil samples, the static groundwater table is considered to have existed at a depth in excess of 50± feet at the time of the subsurface exploration.

As part of our research, we also reviewed recent groundwater data available for wells within the vicinity of the site. Recent water level data was obtained from the California Department of Water Resources website, http://www.water.ca.gov/waterdatalibrary/. The nearest monitoring well with available records in this database is located 1.2 miles north of the site, within the Oro Grande Wash. Water level readings within this monitoring well indicates a groundwater level of 658± feet below the ground surface in March 2023.

5.0 LABORATORY TESTING

The soil samples recovered from the subsurface exploration were returned to our laboratory for further testing to determine selected physical and engineering properties of the soils. The tests are briefly discussed below. It should be noted that the test results are specific to the actual samples tested, and variations could be expected at other locations and depths.

Classification

All recovered soil samples were classified using the Unified Soil Classification System (USCS), in accordance with ASTM D-2488. Field identifications were then supplemented with additional visual classifications and/or by laboratory testing. The USCS classifications are shown on the Boring Logs and are periodically referenced throughout this report.

Density and Moisture Content

The density has been determined for selected relatively undisturbed ring samples. These densities were determined in general accordance with the method presented in ASTM D-2937. The results are recorded as dry unit weight in pounds per cubic foot. The moisture contents are determined in accordance with ASTM D-2216, and are expressed as a percentage of the dry weight. These test results are presented on the Boring Logs.

Consolidation

Selected soil samples have been tested to determine their consolidation potential, in accordance with ASTM D-2435. The testing apparatus is designed to accept either natural or remolded samples in a one-inch-high ring, approximately 2.416 inches in diameter. Each sample is then loaded incrementally in a geometric progression and the resulting deflection is recorded at selected time intervals. Porous stones are in contact with the top and bottom of the sample to permit the addition or release of pore water. The samples are typically inundated with water at an intermediate load to determine their potential for collapse or heave. The results of the consolidation testing are plotted on Plates C-1 through C-8 in Appendix C of this report.

Maximum Dry Density and Optimum Moisture Content

One representative bulk sample of the near-surface soils has been tested to determine its maximum dry density and optimum moisture content. The results have been obtained using the Modified Proctor procedure, per ASTM D-1557 and are presented on Plate C-9 in Appendix C of this report. This test is generally used to compare the in-situ densities of undisturbed field samples, and for later compaction testing. Additional testing of other soil types or soil mixes may be necessary at a later date.

Expansion Index

The expansion potential of the on-site soils was determined in general accordance with ASTM D-4829. The testing apparatus is designed to accept a 4-inch diameter, 1-in high, remolded sample. The sample is initially remolded to 50± 1 percent saturation and then loaded with a surcharge

equivalent to 144 pounds per square foot. The sample is then inundated with water and allowed to swell against the surcharge. The resultant swell or consolidation is recorded after a 24-hour period. The results of the EI testing are as follows:

Sample Identification	Expansion Index	Expansive Potential
B-6 @ 1 to 5 feet	10	Very Low
B-8 @ 1 to 5 feet	0	Non Expansive

Soluble Sulfates

Two (2) representative samples of the near-surface soils have been submitted to a subcontracted analytical laboratory for evaluation of soluble sulfate content. Soluble sulfates are naturally present in soils, and if the concentration is high enough, can result in degradation of concrete which comes into contact with these soils. The results of the soluble sulfate testing are presented below, and are discussed further in a subsequent section of this report.

Sample Identification	Soluble Sulfates (%)	Severity
B-6 @ 1 to 5 feet	0.005	Not Applicable (S0)
B-8 @ 1 to 5 feet	0.001	Not Applicable (S0)

Corrosivity Testing

Two (2) representative bulk samples of the near-surface soils were submitted to a subcontracted corrosion engineering laboratory to determine if the near-surface soils possess corrosive characteristics with respect to common construction materials. The corrosivity testing included a determination of the electrical resistivity, pH, and chloride and nitrate concentrations of the soils, as well as other tests. The results of some of these tests are presented below.

Sample Identification	Minimum Resistivity (ohm-cm)	pH	Chlorides (mg/kg)	Nitrates (mg/kg)	Sulfides (mg/kg)	Redox Potential (mV)
B-6 @ 1 to 5 feet	4,489	8.5	32.1	3.3	3.1	140
B-8 @ 1 to 5 feet	24,120	8.5	7.7	13.3	0.6	136

R-value

R (resistance)-value testing was conducted on one (1) representative sample of soils obtained from the subject site. The R-value was determined in accordance with CA Test Method 301. This test provides a measure of the pavement support characteristics of the soils. The result of the R-value testing is as follows:

Sample ID	R-Value
B-6 @ 1-5 feet	38

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our review, field exploration, laboratory testing and geotechnical analysis, the proposed development is considered feasible from a geotechnical standpoint. The recommendations contained in this report should be taken into the design, construction, and grading considerations.

The recommendations are contingent upon all grading and foundation construction activities being monitored by the geotechnical engineer of record. The recommendations are provided with the assumption that an adequate program of client consultation, construction monitoring, and testing will be performed during the final design and construction phases to verify compliance with these recommendations. Maintaining Southern California Geotechnical, Inc., (SCG) as the geotechnical consultant from the beginning to the end of the project will provide continuity of services. The geotechnical engineering firm providing testing and observation services shall assume the responsibility of Geotechnical Engineer of Record.

The Grading Guide Specifications, included as Appendix D, should be considered part of this report, and should be incorporated into the project specifications. The contractor and/or owner of the development should bring to the attention of the geotechnical engineer any conditions that differ from those stated in this report, or which may be detrimental for the development.

6.1 Seismic Design Considerations

The subject site is located in an area which is subject to strong ground motions due to earthquakes. The performance of a site-specific seismic hazards analysis was beyond the scope of this investigation. However, numerous faults capable of producing significant ground motions are located near the subject site. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to the structure may be unavoidable during large earthquakes. The proposed structure should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

Faulting and Seismicity

Research of available maps indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, SCG did not identify any evidence of faulting during the geotechnical investigation. Therefore, the possibility of significant fault rupture on the site is considered to be low.

The potential for other geologic hazards such as seismically induced settlement, lateral spreading, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is considered low.

Seismic Design Parameters

The 2022 California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. The seismic design parameters presented below are based on the soil profile and the proximity of known faults with respect to the subject site. Based on the anticipated adoption of the 2022 California Building Code (CBC) on January 1, 2023, we expect that the proposed development will be designed in accordance with the 2022 CBC.

The 2022 CBC Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool, a web-based software application available at the website www.seismicmaps.org. This software application calculates seismic design parameters in accordance with several building code reference documents, including ASCE 7-16, upon which the 2022 CBC is based. The application utilizes a database of risk-targeted maximum considered earthquake (MCE_R) site accelerations at 0.01-degree intervals for each of the code documents. The table below was created using data obtained from the application. The output generated from this program is attached to this letter.

The 2022 CBC states that for Site Class D sites with a mapped S1 value greater than 0.2, a site-specific ground motion analysis may be required in accordance with Section 11.4.8 of ASCE 7-16. Supplement 3 to ASCE 7-16 modifies Section 11.4.8 of ASCE 7-16 and states that "a ground motion hazard analysis is not required where the value of the parameter SM1 determined by Eq. (11.4-2) is increased by 50% for all applications of SM1 in this Standard. The resulting value of the parameter SD1 determined by Eq. (11.4-4) shall be used for all applications of SD1 in this Standard."

The seismic design parameters presented in the table below were calculated using the site coefficients (Fa and Fv) from Tables 1613.2.3(1) and 1613.2.3(2) presented in Section 16.4.4 of the 2022 CBC. It should be noted that the site coefficient Fv and the parameters SM1 and SD1 were not included in the SEAOC/OSHPD Seismic Design Maps Tool output for the ASCE 7-16 standard. We calculated these parameters-based on Table 1613.2.3(2) in Section 16.4.4 of the 2022 CBC using the value of S1 obtained from the Seismic Design Maps Tool. **The values of SM1 and SD1 tabulated below** were evaluated using equations 11.4-2 and 11.4-4 of ASCE 7-16 (Equations 16-20 and 16-23, respectively, of the 2022 CBC) and **do not include a 50 percent increase.** As discussed above, if a ground motion hazard analysis has not been performed, SM1 and SD1 must be increased by 50 percent for all applications with respect to ASCE 7-16.

2022 CBC SEISMIC DESIGN PARAMETERS

Parameter		Value
Mapped Spectral Acceleration at 0.2 sec Period	S_S	1.500
Mapped Spectral Acceleration at 1.0 sec Period	S_1	0.600
Site Class	---	D
Site Modified Spectral Acceleration at 0.2 sec Period	S_{MS}	1.500
Site Modified Spectral Acceleration at 1.0 sec Period	S_{M1}	1.020*
Design Spectral Acceleration at 0.2 sec Period	S_{DS}	1.000
Design Spectral Acceleration at 1.0 sec Period	S_{D1}	0.680*

*Note: These values must be increased by 50 percent if a site-specific ground motion hazard analysis has not been performed. However, this increase is not expected to affect the design of the structure type proposed for this site. This assumption should be confirmed by the project structural engineer. The values presented in the table above do not include a 50-percent increase.

Liquefaction

Liquefaction is the loss of the strength in generally cohesionless, saturated soils when the pore-water pressure induced in the soil by a seismic event becomes equal to or exceeds the overburden pressure. The primary factors which influence the potential for liquefaction include groundwater table elevation, soil type and grain size characteristics, relative density of the soil, initial confining pressure, and intensity and duration of ground shaking. The depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Liquefaction potential is greater in saturated, loose, poorly graded fine sands with a mean (d_{50}) grain size in the range of 0.075 to 0.2 mm (Seed and Idriss, 1971). Clayey (cohesive) soils or soils which possess clay particles (d<0.005mm) in excess of 20 percent (Seed and Idriss, 1982) are generally not considered to be susceptible to liquefaction, nor are those soils which are above the historic static groundwater table.

The California Geological Survey (CGS) has not yet conducted detailed seismic hazards mapping in the area of the subject site. The general liquefaction susceptibility of the site was determined by research of the San Bernardino County Land Use Plan, General Plan, Geologic Hazard Overlays. Map FH05 for the Baldy Mesa 7.5-Minute Quadrangle indicates that the subject site is not located within an area of liquefaction susceptibility. Based on the mapping performed by the county of San Bernardino, the subsurface profile identified in this report, which includes moderate to high strength older alluvium, and the lack of a historic high groundwater table within the upper 50± feet, liquefaction is not considered to be a design concern for this project.

6.2 Geotechnical Design Considerations

General

The near-surface soils encountered at the boring locations consist of native younger alluvium, which possesses variable densities and strengths. The results of laboratory testing indicate that some of the near-surface soils possess a moderate potential for collapse when inundated with water. Therefore, the near-surface younger alluvial soils, in their present condition, are not

considered suitable for the support of the new foundations and floor slab. The younger alluvial soils are underlain by moderate strength older alluvium which possesses more favorable consolidation/collapse characteristics. Remedial grading is recommended within the area of the proposed building, in order to remove and replace a portion of the near-surface younger alluvial soils as compacted structural fill.

Settlement

Laboratory testing indicates that some samples of soils taken from the near-surface native alluvial soils possess a minor potential for compression. The proposed remedial grading will remove the near-surface variable-strength native soils from within the proposed building area. Therefore, following completion of the recommended grading, post-construction settlements are expected to be within tolerable limits.

Expansion

Laboratory testing performed on a representative sample of the near surface soils indicates that these materials possess a non-expansive to very low expansion potential (EI = 0 and 10). Therefore, no design considerations related to expansive soils are considered warranted for this site. It is recommended that additional expansion index testing be conducted at the completion of rough grading to verify the expansion potential of the as-graded building pad.

Soluble Sulfates

The results of the soluble sulfate testing indicate that the tested soil samples possess levels of soluble sulfates that are considered to be "not applicable" (S0) with respect to the American Concrete Institute (ACI) Publication 318-14 Building Code Requirements for Structural Concrete and Commentary, Section 4.3. Therefore, specialized concrete mix designs are not considered to be necessary, with regard to sulfate protection purposes. It is, however, recommended that additional soluble sulfate testing be conducted at the completion of rough grading to verify the soluble sulfate concentrations of the soils which are present at pad grade within the building expansion area.

Corrosion Potential

The results of laboratory testing indicate that the tested samples of the on-site soils possess minimum resistivity values in the range of 4,489 to 24,120 ohm-cm, and a pH value of 8.5. These soils possess redox potentials of 136 to 140 mV and sulfide concentration of 0.6 to 3.1 parts per million. These test results have been evaluated in accordance with guidelines published by the Ductile Iron Pipe Research Association (DIPRA). The DIPRA guidelines consist of a point system by which characteristics of the soils are used to quantify the corrosivity characteristics of the site. Resistivity, pH, sulfide concentration, redox potential, and moisture content are the five factors that enter into the evaluation procedure. Based on these factors, the on-site soils are not considered to be corrosive to ferrous materials. Therefore, corrosion protection is not expected to be required for cast iron or ductile iron pipes.

Low concentrations (7.7 and 32.1 mg/kg) of chlorides were detected in the samples submitted for corrosivity testing. In general, soils possessing chloride concentrations in excess of 500 parts per million (ppm) are considered to be corrosive with respect to steel reinforcement within

reinforced concrete. Based on these test results, the site is considered to have a C1 chloride exposure in accordance with the American Concrete Institute (ACI) Publication 318 Building Code Requirements for Structural Concrete and Commentary. Therefore, a specialized concrete mix design for reinforced concrete for protection against chloride exposure is not considered warranted.

Nitrates present in soil can be corrosive to copper tubing at concentrations greater than 50 mg/kg. The tested samples possess nitrate concentrations of 3.3 to 13.3 mg/kg. Based on this test result, the on-site soils are not considered to be corrosive to copper pipe.

It should be noted that SCG does not practice in the field of corrosion engineering. Therefore, the client may wish to contact a corrosion engineer to provide a more thorough evaluation.

Shrinkage/Subsidence

Removal and recompaction of the near-surface alluvial soils is estimated to result in an average shrinkage of 3 to 11± percent, based on the results of density testing and the assumption that the onsite soils will be compacted to about 92 percent of the ASTM D-1557 maximum dry density. However, the estimated shrinkage of the individual soil layers at the site is highly variable, locally ranging from a minimum shrinkage value of 0 percent to a maximum shrinkage of 16 percent at varying sample depths and locations. It should be noted that the potential shrinkage estimate is based on dry density testing performed on small-diameter samples taken at the boring locations. If a more accurate and precise shrinkage estimate is desired, SCG can perform a shrinkage study involving several excavated test-pits where in-place densities are evaluated using in-situ testing methods instead of laboratory density testing on small-diameter samples. Please contact SCG for details and a cost estimate regarding a shrinkage study, if desired.

Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence is estimated to be 0.1± feet. This estimate may be used for grading in areas that are underlain by native alluvial soils.

These estimates are based on previous experience and the subsurface conditions encountered at the boring locations. The actual amount of subsidence is expected to be variable and will be dependent on the type of machinery used, repetitions of use, and dynamic effects, all of which are difficult to assess precisely.

Slope Stability

Newly constructed fill slopes, comprised of properly compacted engineered fill, at inclinations of 2h:1v will possess adequate gross stability. Cut slopes excavated within the existing granular alluvial soils may be subject to surficial instability due to the lack of cohesion within these materials. Therefore, stability fills may be required within these areas. This condition may affect the proposed cut slopes at the site. The need for stability fills should be determined by SCG as part of the future detailed grading plan review.

Grading and Foundation Plan Review

This report was prepared in the consideration of the preliminary grading plan provided to our office. No foundation plans were available at the time of this report. It is therefore recommended that we be provided with copies of the preliminary plans, when they become available, for review with regard to the conclusions, recommendations, and assumptions contained within this report.

6.3 Site Grading Recommendations

The grading recommendations presented below are based on the subsurface conditions encountered at the boring locations and our understanding of the proposed development. We recommend that all grading activities be completed in accordance with the Grading Guide Specifications included as Appendix D of this report, unless superseded by site-specific recommendations presented below.

Site Stripping

Vegetation including grasses, weeds and shrubs on the site should be stripped and disposed of off-site. Stripping should include any organic soils and any root masses. The actual extent of site stripping should be determined in the field by the geotechnical engineer, based on the organic content and stability of the materials encountered.

Treatment of Existing Soils: Building Pad

Remedial grading should be performed within the proposed building area in order to remove a portion of the near-surface native alluvial soils. Based on conditions encountered at the boring locations, the existing soils within the proposed building area are recommended to be overexcavated to a depth of at least 5 feet below existing grade and to a depth of at least 3 feet below proposed building pad subgrade elevation, whichever is greater.

Additional overexcavation should be performed within the influence zones of the new foundations, to provide for a new layer of compacted structural fill extending to a depth of 3 feet below proposed foundation bearing grade.

The overexcavation area should extend at least 5 feet beyond the building foundations and perimeters. If the proposed structure incorporates any exterior columns (such as for a canopy or overhang) the area of overexcavation should also encompass these areas.

Following completion of the overexcavation, the subgrade soils within the building area should be evaluated by the geotechnical engineer to verify their suitability to serve as the structural fill subgrade, as well as to support the foundation loads of the new structure. This evaluation should include proofrolling and probing to identify any soft, loose, or otherwise unstable soils that must be removed. Some localized areas of deeper excavation may be required if loose, porous, or low-density native soils are encountered at the base of the overexcavation. **Additional overexcavation may be necessary within the existing drainage course area if low strength, younger alluvial soils, are encountered during grading.**

After a suitable overexcavation subgrade has been achieved, the exposed soils should be scarified to a depth of at least 12 inches, moisture conditioned to achieve a moisture content of 0 to 4 percent above optimum moisture content. The moisture conditioning of the overexcavation subgrade soils should be verified by the geotechnical engineer. The subgrade soils should then be recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. The previously excavated soils may then be replaced as compacted structural fill.

Treatment of Existing Soils: Cut and Fill Slopes

New cut and fill slopes are expected to be constructed around the perimeter of the project. All slopes should be at a maximum inclination of 2h:1v. A keyway should be excavated at the toe of new fill slopes which are not located in fill areas. The keyway should be at least 15 feet wide and 3 feet deep. The recommended width of the keyway is based on 1.5 times the width of typical grading equipment. If smaller equipment is utilized, a smaller keyway may be suitable, at the discretion of the geotechnical engineer. The base of the keyway should slope at least 1 foot downward into the slope. Following completion of the keyway cut, the subgrade soils should be evaluated by the geotechnical engineer to verify that the keyway is founded into competent materials. The resulting subgrade soils should then be scarified to a depth of 10 to 12 inches, moisture conditioned to 0 to 4 percent above optimum moisture content and recompacted. During construction of the new fill slope, the existing slope should be benched in accordance with the detail presented on Plate D-4. Benches less than 4 feet in height may be used at the discretion of the geotechnical engineer.

Stability fills for cut slopes will provide a more uniform appearance and allow landscaping on the slope. Should a stability fill for cut slope be necessary, the recommendations for the stability fill will be the same as the recommendations for the fill slopes, mentioned above.

Treatment of Existing Soils: Retaining Walls and Site Walls

The existing soils within the areas of any proposed retaining walls and non-retaining site walls should be overexcavated to a depth of 3 feet below foundation bearing grade and replaced as compacted structural fill, as discussed above for the proposed building pad. Any undocumented fill soils within any of these foundation areas should be removed in their entirety. The overexcavation areas should extend at least 5 feet beyond the foundation perimeters, and to an extent equal to the depth of fill below the new foundations. Any erection pads used to construct the walls are considered to be part of the foundation system with respect to these remedial grading recommendations. The overexcavation subgrade soils should be evaluated by the geotechnical engineer prior to scarifying, moisture conditioning, and recompacting the upper 12 inches of exposed subgrade soils. The previously excavated soils may then be replaced as compacted structural fill.

Treatment of Existing Soils: Parking and Drive Areas

Based on economic considerations, overexcavation of the existing variable strength alluvium soils in the new parking and drive areas is not considered warranted, with the exception of areas where lower strength or unstable soils are identified by the geotechnical engineer during grading.

Subgrade preparation in the new parking and drive areas should initially consist of removal of all soils disturbed during stripping and demolition operations. The geotechnical engineer should then

evaluate the subgrade to identify any areas of additional unsuitable soils. The subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned to 0 to 4 percent above optimum, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength alluvial soils throughout the site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

The grading recommendations presented above for the proposed parking and drive areas assume that the owner and/or developer can tolerate minor amounts of settlement within the proposed parking areas. The grading recommendations presented above do not completely mitigate the extent of existing fill soils and loose native soils in the parking areas. As such, settlement and associated pavement distress could occur. Typically, repair of such distressed areas involves significantly lower costs than completely mitigating these soils at the time of construction. If the owner cannot tolerate the risk of such settlements, the parking and drive areas should be overexcavated to a depth of 2 feet below proposed pavement subgrade elevation, with the resulting soils replaced as compacted structural fill.

Fill Placement

- Fill soils should be placed in thin (6± inches), near-horizontal lifts, moisture conditioned to within 0 to 4 percent above the optimum moisture content, and compacted.
- On-site soils may be used for fill provided they are cleaned of any debris to the satisfaction of the geotechnical engineer.
- All grading and fill placement activities should be completed in accordance with the requirements of the 2022 CBC and the grading code of the city of Hesperia.
- All fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density.
- Compaction tests should be performed periodically by the geotechnical engineer as random verification of compaction and moisture content. These tests are intended to aid the contractor. Since the tests are taken at discrete locations and depths, they may not be indicative of the entire fill and therefore should not relieve the contractor of his responsibility to meet the job specifications.

Imported Structural Fill

All imported structural fill should consist of very low expansive (EI < 20), well graded soils possessing at least 10 percent fines (that portion of the sample passing the No. 200 sieve). Additional specifications for structural fill are presented in the Grading Guide Specifications, included as Appendix D.

Utility Trench Backfill

In general, all utility trench backfill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. It is recommended that materials in excess of 3 inches in size not be used for utility trench backfill. Compacted trench backfill should conform to the requirements of the local grading code, and more restrictive requirements may be indicated by city of Hesperia. All utility trench backfills should be witnessed by the geotechnical engineer. The trench backfill soils should be compaction tested where possible; probed and visually evaluated elsewhere.

Utility trenches which parallel a footing, and extending below a 1h:1v plane projected from the outside edge of the footing should be backfilled with structural fill soils, compacted to at least 90 percent of the ASTM D-1557 standard. Pea gravel backfill should not be used for these trenches.

6.4 Construction Considerations

Moisture Sensitive Subgrade Soils

Occasional samples of the near-surface soils consist predominately of silty sands. These soils may become unstable if exposed to significant moisture infiltration or disturbance by construction traffic. If grading occurs during a period of relatively wet weather, an increase in subgrade instability in localized areas should also be expected. The site should, therefore, be graded to prevent ponding of surface water and to prevent water from running into excavations.

Excavation Considerations

The near surface soils are predominately granular in composition. These materials will likely be subject to caving within shallow excavations. Where caving occurs within shallow excavations, flattened excavation slopes may be sufficient to provide excavation stability. On a preliminary basis, the inclination of temporary slopes should not exceed 2h:1v. Maintaining adequate moisture content within the near-surface soils will improve excavation stability. All excavation activities on this site should be conducted in accordance with Cal-OSHA regulations.

Groundwater

Based on the conditions encountered at the boring locations, the static groundwater table at this site is considered to exist at a depth greater than 50± feet. Therefore, groundwater is not expected to impact the grading or foundation construction activities.

6.5 Foundation Design and Construction

Based on the preceding grading recommendations, it is assumed that the new building pad will be underlain by structural fill soils used to replace the upper portion of the existing variable strength alluvial soils. These new structural fill soils are expected to extend to depths of at least 3 feet below proposed foundation bearing grade. Based on this subsurface profile, the proposed structure may be supported on conventional shallow foundations.

Foundation Design Parameters

New square and rectangular footings may be designed as follows:

- Maximum, net allowable soil bearing pressure: 2,500 lbs/ft^2.
- Minimum wall/column footing width: 14 inches/24 inches.
- Minimum longitudinal steel reinforcement within strip footings: Two (2) No. 5 rebars (1 top and 1 bottom).

- Minimum foundation embedment: 12 inches into suitable structural fill soils, and at least 18 inches below adjacent exterior grade. Interior column footings may be placed immediately beneath the floor slab.

- It is recommended that the perimeter building foundations be continuous across all exterior doorways. Any flatwork adjacent to the exterior doors should be doweled into the perimeter foundations in a manner determined by the structural engineer.

The allowable bearing pressure presented above may be increased by one-third when considering short duration wind or seismic loads. The minimum steel reinforcement recommended above is based on geotechnical considerations; additional reinforcement may be necessary for structural considerations. The actual design of the foundations should be determined by the structural engineer.

Foundation Construction

The foundation subgrade soils should be evaluated at the time of overexcavation, as discussed in Section 6.3 of this report. It is further recommended that the foundation subgrade soils be evaluated by the geotechnical engineer immediately prior to steel or concrete placement. Soils suitable for direct foundation support should consist of newly placed structural fill, compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Any unsuitable materials should be removed to a depth of suitable bearing compacted structural fill, with the resulting excavations backfilled with compacted fill soils. As an alternative, lean concrete slurry (500 to 1,500 psi) may be used to backfill such isolated overexcavations.

The foundation subgrade soils should also be properly moisture conditioned to 0 to 4 percent above the Modified Proctor optimum, to a depth of at least 12 inches below bearing grade. Since it is typically not feasible to increase the moisture content of the floor slab and foundation subgrade soils once rough grading has been completed, care should be taken to maintain the moisture content of the building pad subgrade soils throughout the construction process.

Estimated Foundation Settlements

Post-construction total and differential settlements of shallow foundations designed and constructed in accordance with the previously presented recommendations are estimated to be less than 1.0 and 0.5 inches, respectively. Differential movements are expected to occur over a 50-foot span, thereby resulting in an angular distortion of less than 0.002 inches per inch.

Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and slabs and the passive earth pressure developed by footings below grade. The following friction and passive pressure may be used to resist lateral forces:

- Passive Earth Pressure: 300 lbs/ft^3
- Friction Coefficient: 0.30

These are allowable values, and include a factor of safety. When combining friction and passive resistance, the passive pressure component should be reduced by one-third. These values assume that footings will be poured directly against compacted structural fill. The maximum allowable passive pressure is 2,500 lbs/ft^2.

6.6 Floor Slab Design and Construction

Subgrades which will support new floor slab should be prepared in accordance with the recommendations contained in the ***Site Grading Recommendations*** section of this report. Based on the anticipated grading which will occur at this site, the floor of the new structure may be constructed as a conventional slab-on-grade supported on newly placed structural fill soils. These fill soils are expected to extend to a depth of at least 3 feet below finished pad grade. Based on geotechnical considerations, the floor slabs may be designed as follows:

- Minimum slab thickness: 6 inches.

- Modulus of Subgrade Reaction: k = 150 psi/in

- Minimum slab reinforcement: Reinforcement is not required for geotechnical conditions. The actual floor slab reinforcement should be determined by the structural engineer, based upon the imposed loading.

- Slab underlayment: If moisture sensitive floor coverings will be used the minimum slab underlayment should consist of a moisture vapor barrier constructed below the entire area where such moisture sensitive floor coverings are anticipated. The moisture vapor barrier should meet or exceed the Class A rating as defined by ASTM E 1745-97 and have a permeance rating less than 0.01 perms as described in ASTM E 96-95 and ASTM E 154-88. A polyolefin material such as a 15 mil. Stego® Wrap Vapor Barrier or equivalent will meet these specifications. The moisture vapor barrier should be properly constructed in accordance with all applicable manufacturer specifications. The need for sand and/or the amount of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview.

- Moisture condition the floor slab subgrade soils to 0 to 4 percent above the Modified Proctor optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to concrete placement.

- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

The actual design of the floor slab should be completed by the structural engineer to verify adequate thickness and reinforcement.

6.7 Retaining Wall Design and Construction

Small retaining walls are expected to be necessary in the area of the new truck loading docks and may also be required to facilitate the new site grades. The parameters recommended for use in the design of these walls are presented below.

Retaining Wall Design Parameters

Based on the soil conditions encountered at the boring locations, the following parameters may be used in the design of new retaining walls for this site. We have provided parameters assuming the use of on-site soils for retaining wall backfill. The near-surface soils generally consist of well-silty sands and clayey sands. Based on their classification, these materials are expected to possess an internal angle of friction of at least 32 degrees when compacted to 90 percent of the ASTM D-1557 maximum dry density.

If desired, SCG could provide design parameters for an alternative select backfill material behind the retaining walls. The use of select backfill material could result in lower lateral earth pressures. In order to use the design parameters for the imported select fill, this material must be placed within the entire active failure wedge. This wedge is defined as extending from the heel of the retaining wall upwards at an angle of approximately 60° from horizontal. If select backfill material behind the retaining wall is desired, SCG should be contacted for supplementary recommendations.

RETAINING WALL DESIGN PARAMETERS

Design Parameter		**Soil Type**
		On-Site Silty Sands and Clayey Sands
Internal Friction Angle (ϕ)		32°
Unit Weight		135 lbs/ft^3
Equivalent Fluid Pressure:	Active Condition (level backfill)	42 lbs/ft^3
	Active Condition (2h:1v backfill)	64 lbs/ft^3
	At-Rest Condition (level backfill)	64 lbs/ft^3

The walls should be designed using a soil-footing coefficient of friction of 0.30 and an equivalent passive pressure of 300 lbs/ft^3. The structural engineer should incorporate appropriate factors of safety in the design of the retaining walls.

The active earth pressure may be used for the design of retaining walls that do not directly support structures or support soils that in turn support structures and which will be allowed to deflect. The at-rest earth pressure should be used for walls that will not be allowed to deflect such as those which will support foundation bearing soils, or which will support foundation loads directly.

Where the soils on the toe side of the retaining wall are not covered by a "hard" surface such as a structure or pavement, the upper 1 foot of soil should be neglected when calculating passive resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

Retaining Wall Foundation Design

The retaining wall foundations should be supported within newly placed structural fill. Foundations to support new retaining walls should be designed in accordance with the general Foundation Design Parameters presented in a previous section of this report.

Seismic Lateral Earth Pressures

In accordance with the 2022 CBC, any retaining walls more than 6 feet in height must be designed for seismic lateral earth pressures. The recommended seismic pressure distribution is triangular in shape, assumed to occur at the top of the wall, decreasing to 0 at the base of the wall. For a level backfill condition behind the top of the wall, the seismic lateral earth pressure is 20H lbs/ft^2, where H is the overall height of the wall. Where the ground surface above the wall consists of a 2h:1v (horizontal to vertical) sloping condition, the seismic lateral earth pressure is 60H lbs/ft^2. The seismic pressure distribution is based on the Mononobe-Okabe equation, utilizing a design acceleration of 0.394g. The 2022 CBC does not provide definitive guidance on determination of the design acceleration to be used in generating the seismic lateral earth pressure. In accordance with standard geotechnical practice, we have calculated the design acceleration as $^2/_3$ of the PGA_M. However, for combinations of high ground motion and steep slopes above the wall, the Mononobe-Okabe equation gives unrealistic high estimates of active earth pressures. Therefore, the seismic earth pressure for the sloping condition presented above was derived using a design acceleration equal to 50% of the PGA_M.

Backfill Material

On-site soils may be used to backfill the retaining walls. However, all backfill material placed within 3 feet of the back-wall face should have a particle size no greater than 3 inches. The retaining wall backfill materials should be well graded.

It is recommended that a properly installed prefabricated drainage composite such as the MiraDRAIN 6000XL (or approved equivalent), which is specifically designed for use behind retaining walls, be placed against the face on the back side of the retaining walls. This material should extend from the top of the retaining wall footing to within 1 foot of the ground surface on the back side of the retaining wall. A 12-inch-thick layer of a low permeability soil should be placed over the backfill to reduce surface water migration to the underlying soils.

All retaining wall backfill should be placed and compacted under engineering-controlled conditions in the necessary layer thicknesses to ensure an in-place density between 90 and 93 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557-91). Care should be taken to avoid over-compaction of the soils behind the retaining walls, and the use of heavy compaction equipment should be avoided.

Subsurface Drainage

As previously indicated, the retaining wall design parameters are based upon drained backfill conditions. Consequently, some form of permanent drainage system will be necessary in conjunction with the appropriate backfill material. Subsurface drainage may consist of either:

- A weep hole drainage system typically consisting of a series of 2-inch diameter holes in the wall situated slightly above the ground surface elevation on the exposed side of the wall and at an approximate 10-foot on-center spacing. Alternatively, 4-inch diameter holes at an approximate 20-foot on-center spacing can be used for this type of drainage system. In addition, the weep holes should include a 2 cubic foot pocket of open graded gravel, surrounded by an approved geotextile fabric, at each weep hole location.

- A 4-inch diameter perforated pipe surrounded by 2 cubic feet of gravel per linear foot of drain placed behind the wall, above the retaining wall footing. The gravel layer should be wrapped in a suitable geotextile fabric to reduce the potential for migration of fines. The footing drain should be extended to daylight or tied into a storm drainage system. The actual design of this type of system should be determined by the civil engineer to verify that the drainage system possesses the adequate capacity and slope for its intended use.

Weep holes or a footing drain will not be required for building stem walls.

6.8 Pavement Design Parameters

Site preparation in the pavement area should be completed as previously recommended in the ***Site Grading Recommendations*** section of this report. The subsequent pavement recommendations assume proper drainage and construction monitoring, and are based on either PCA or CALTRANS design parameters for a twenty (20) year design period. However, these designs also assume a routine pavement maintenance program to obtain the anticipated 20-year pavement service life.

Pavement Subgrades

It is anticipated that the new pavements will be primarily supported on a layer of compacted structural fill, consisting of scarified, thoroughly moisture conditioned and recompacted existing soils. The on-site soils generally consist of silty sands, with varying gravel and clay content. Based on their classification, these materials are expected to possess good to excellent pavement support characteristics. Results of laboratory testing indicate the on-site soils to possess an R-value of 38. Therefore, the subsequent pavement design is based upon the tested R-value of 38. Any fill material imported to the site should have support characteristics equal to or greater than that of the on-site soils and be placed and compacted under engineering-controlled conditions. It is recommended that R-value testing be performed after completion of rough grading in order to verify the R-value of the as-graded pavement areas.

Asphaltic Concrete

Presented below are the recommended thicknesses for new flexible pavement structures consisting of asphaltic concrete over a granular base. The pavement designs are based on the

traffic indices (TI's) indicated. The client and/or civil engineer should verify that these TI's are representative of the anticipated traffic volumes. If the client and/or civil engineer determine that the expected traffic volume will exceed the applicable traffic index, we should be contacted for supplementary recommendations. The design traffic indices equate to the following approximate daily traffic volumes over a 20-year design life, assuming six operational traffic days per week.

Traffic Index	No. of Heavy Trucks per Day
4.0	0
5.0	1
6.0	3
7.0	11
8.0	35
9.0	93

For the purpose of the traffic volumes indicated above, a truck is defined as a 5-axle tractor trailer unit with one 8-kip axle and two 32-kip tandem axles. All of the traffic indices allow for 1,000 automobiles per day.

ASPHALT PAVEMENTS (R=38)					
Materials	Thickness (inches)				
	Auto Parking and Auto Drive Lanes (TI = 4.0 to 5.0)	Truck Traffic			
		TI = 6.0	TI = 7.0	TI = 8.0	TI = 9.0
Asphalt Concrete	3	3½	4	5	5½
Aggregate Base	5	6	8	9	11
Compacted Subgrade	12	12	12	12	12

The aggregate base course should be compacted to at least 95 percent of the ASTM D-1557 maximum dry density. The asphaltic concrete should be compacted to at least 95 percent of the Marshall maximum density, as determined by ASTM D-2726. The aggregate base course may consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB), which is a recycled gravel, asphalt and concrete material. The gradation, R-Value, Sand Equivalent, and Percentage Wear of the CAB or CMB should comply with appropriate specifications contained in the current edition of the "Greenbook" Standard Specifications for Public Works Construction.

Portland Cement Concrete

The preparation of the subgrade soils within concrete pavement areas should be performed as previously described for proposed asphalt pavement areas. The minimum recommended thicknesses for the Portland Cement Concrete pavement sections are as follows:

PORTLAND CEMENT CONCRETE PAVEMENTS (R=38)				
Materials	**Thickness (inches)**			
	Autos and Light Truck Traffic (TI = 6.0)	Truck Traffic		
		TI = 7.0	TI = 8.0	TI = 9.0
PCC	5	5½	6½	8
Compacted Subgrade (95% minimum compaction)	12	12	12	12

The concrete should have a 28-day compressive strength of at least 3,000 psi. Any reinforcement within the PCC pavements should be determined by the project structural engineer. The maximum joint spacing within all of the PCC pavements is recommended to be equal to or less than 30 times the pavement thickness.

7.0 GENERAL COMMENTS

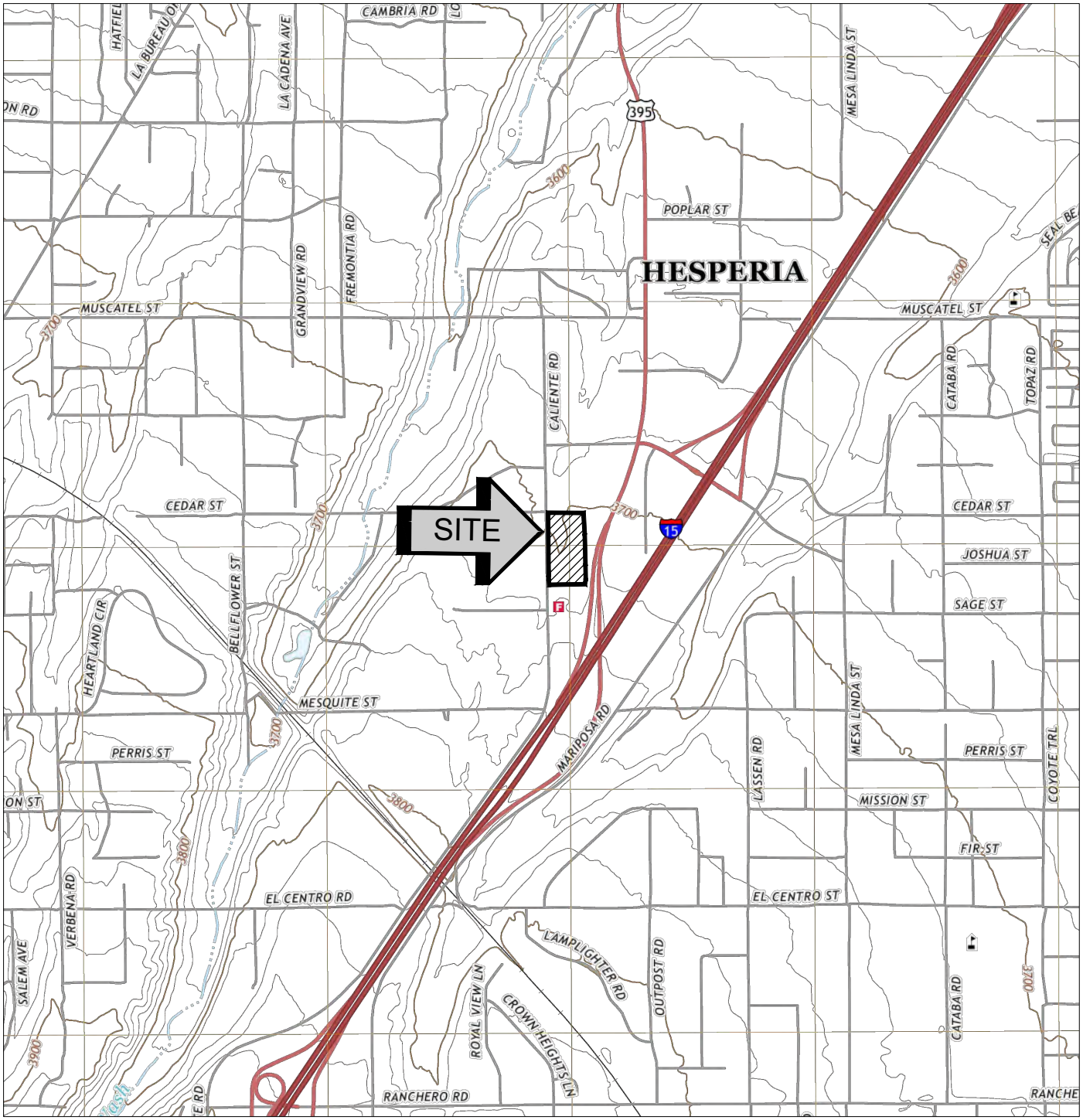
This report has been prepared as an instrument of service for use by the client, in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, civil engineer, and/or structural engineer. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The client(s)' reliance upon this report is subject to the Engineering Services Agreement, incorporated into our proposal for this project.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and sample depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

APPENDIX A



SOURCE: USGS TOPOGRAPHIC MAP OF THE BALDY MESA QUADRANGLE, SAN BERNARDINO COUNTY, CALIFORNIA, 2021.

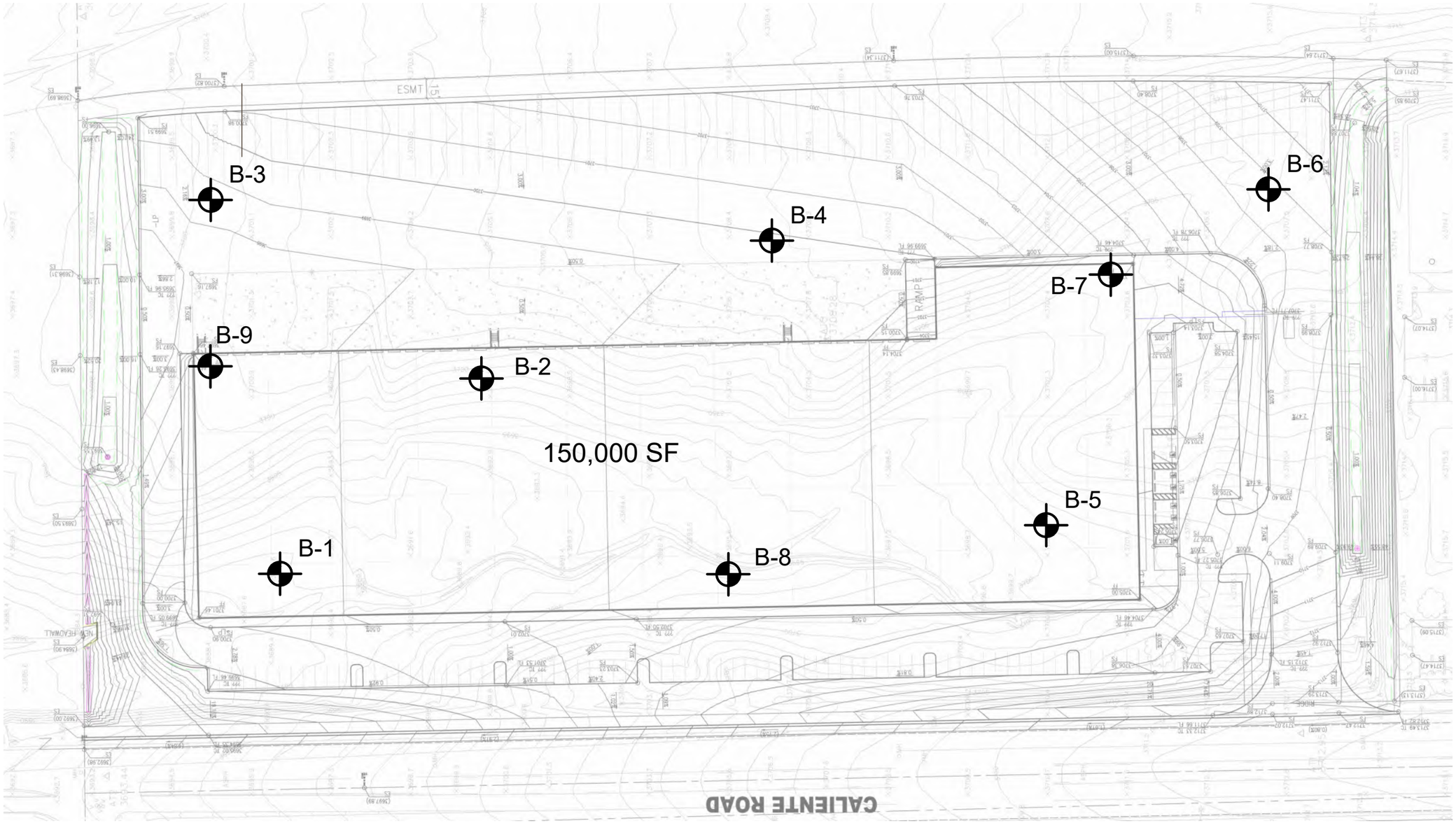
SITE LOCATION MAP

HESPERIA COMMERCE CENTER - LOT 5

HESPERIA, CALIFORNIA

SCALE: 1" = 2000'	
DRAWN: JJH CHKD: PM	
SCG PROJECT 23G166-3	
PLATE 1	

SOUTHERN CALIFORNIA GEOTECHNICAL



GEOTECHNICAL LEGEND

APPROXIMATE BORING LOCATION

NORTH

NOTE: CONCEPTUAL GRADING PLAN PROVIDED BY WESTLAND GROUP, INC.

BORING LOCATION PLAN

HESPERIA COMMERCE CENTER - LOT 5

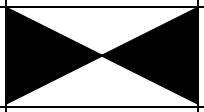
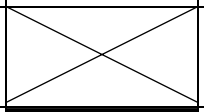
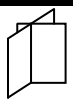
HESPERIA, CALIFORNIA

SCALE: 1" = 80'	
DRAWN: MK CHKD: RGT	
SCG PROJECT 23G166-3	
PLATE 2	

SOUTHERN CALIFORNIA GEOTECHNICAL

APPENDIX B

BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

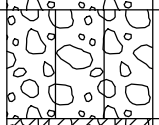
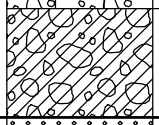
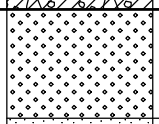
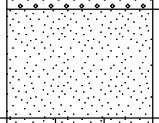
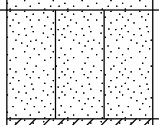
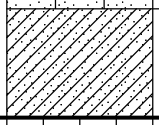
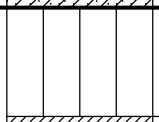
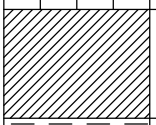
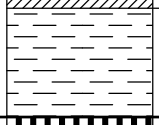
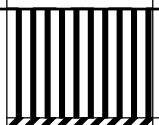
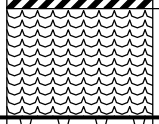
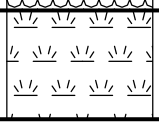
LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-1

JOB NO.: 23G166-1 | DRILLING DATE: 7/21/23 | WATER DEPTH: Dry
PROJECT: Hesperia Commerce Center - Lot 5 | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: 21 feet
LOCATION: Hesperia, California | LOGGED BY: Caleb Brackett | READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		15			ALLUVIUM: Brown Silty fine to medium Sand, trace coarse Sand, medium dense-dry	113	1					
		22			Brown fine to coarse Sand, little Clay, trace Silt, medium dense-dry to damp	124	2					
5		34			OLDER ALLUVIUM: Brown Clayey fine to coarse Sand, trace fine Gravel, trace Silt, medium dense to very dense-moist	124	10					
		66/11"			Light Brown fine to coarse Sand, little Clay, very dense-moist	119	9					
		72/10"			Light Brown fine Sand, trace medium Sand, little Clay, trace Iron Oxide staining, very dense-moist	115	8					
10												
		22			Brown fine to coarse Sand, little Clay, trace fine Gravel, trace Silt, medium dense-damp to moist		6					
15												
		22			Light Brown fine Sand, little Clay, trace Silt, medium dense-moist		9					
20												
		20			Brown fine to coarse Sand, little Clay, trace Silt, medium dense-moist		7					
25					Boring Terminated at 25'							

TBL 23G166-1.GPJ SOCALGEO.GDT 8/25/23

TEST BORING LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-2

JOB NO.: 23G166-1
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 7/21/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: 17 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		48			ALLUVIUM: Brown Silty fine to medium Sand, little Clay, trace fine Gravel, dense-damp	128	5					
		76			@ 3 feet, trace Calcareous veining, little coarse Sand, very dense-moist	117	7					
5		82/9"			OLDER ALLUVIUM: Brown Clayey fine to coarse Sand, little fine to coarse Gravel, strongly cemented, very dense-damp	120	6					
		50/5"				118	4					
		78			Brown fine to coarse Sand, little Clay, trace Silt, very dense-damp to moist	117	4					
10												
		77/11"					7					
15												
		52					6					
20					Boring Terminated at 20'							

TBL 23G166-1.GPJ SOCALGEO.GDT 8/25/23

TEST BORING LOG

PLATE B-2

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-3

JOB NO.: 23G166-1
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 7/21/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: 8 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		18			ALLUVIUM: Brown Silty fine to medium Sand, trace coarse Sand, medium dense-damp		4					
		35			Brown fine to coarse Sand, little Clay, trace Silt, trace fine Gravel, dense-damp		4					
5		36			OLDER ALLUVIUM: Brown Clayey fine to medium Sand, trace Silt, medium dense to dense-damp		6					
		26					7					
10					Boring Terminated at 10'							

TBL 23G166-1.GPJ SOCALGEO.GDT 8/25/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-4

JOB NO.: 23G166-1
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 7/21/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: 8 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		10			ALLUVIUM: Brown Silty fine Sand, trace coarse Sand, medium dense-damp		4					
		9			Brown fine to medium Sand, little Silt, trace coarse Sand, trace fine Gravel, loose to medium dense-damp		5					
5		10					5					
		32	4.0		OLDER ALLUVIUM: Brown fine Sandy Clay, trace Silt, hard-damp to moist		9					
10					Boring Terminated at 10'							

TBL 23G166-1.GPJ SOCALGEO.GDT 8/25/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

JOB NO.: 23G166-1
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 7/21/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: 6 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		5			ALLUVIUM: Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel, loose-damp		4					
		6					6					
5		4					5					
		24			OLDER ALLUVIUM: Brown fine to coarse Sand, little Clay, medium dense-moist		8					
10					Boring Terminated at 10'							

TBL 23G166-1.GPJ SOCALGEO.GDT 8/25/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-6

JOB NO.: 23G166-1
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 7/21/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: 8 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: --- MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		18			ALLUVIUM: Brown Clayey fine Sand, trace coarse Sand, trace fine Gravel, medium dense-damp to moist		4					EI = 10 @ 1-5'
		21					8					
5		22					8					
		28			OLDER ALLUVIUM: Brown fine to coarse Sand, trace Silt, trace to little fine Gravel, medium dense-damp to moist		5					
10					Boring Terminated at 10'							

TBL 23G166-1.GPJ SOCALGEO.GDT 8/25/23

TEST BORING LOG

PLATE B-6

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-7

JOB NO.: 23G166-3
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: 14 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3703.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		13			ALLUVIUM: Light Brown Silty fine Sand, little medium to coarse Sand, trace fine Gravel, loose to medium dense-damp	109	4					
		16				112	3					
5		23			OLDER ALLUVIUM: Brown Silty fine to medium Sand, little coarse Sand, little Clay, trace fine to coarse Gravel, medium dense-moist	118	10					
		31				120	9					
		40			Brown Clayey fine to coarse Sand, little fine to coarse Gravel, trace Silt, medium dense-moist	124	8					
10												
					Brown fine to coarse Sand, little Clay, trace Silt, medium dense to dense-moist to very moist							
		29					13					
15												
		35					9					
20												
					Brown Silty fine to medium Sand, little coarse Sand, trace Silt, dense-moist							
		45					9					
25					Boring Terminated at 25'							

TBL 23G166-3.GPJ SOCALGEO.GDT 11/9/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-8

JOB NO.: 23G166-3
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: 12 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3695.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		18			ALLUVIUM: Light Brown Silty fine Sand, trace medium to coarse Sand, trace fine Gravel, trace fine root fibers, medium dense-dry to damp		2					EI = 1 to 5'
		13					3					
5												
		11			Brown Silty fine to medium Sand, little coarse Sand, little fine Gravel, medium dense-damp		5					
		10			@ 8½± feet, little Clay		5					
10												
					OLDER ALLUVIUM: Brown Silty fine Sand, trace medium Sand, dense-damp							
		39					5					
15												
					Light Gray Brown fine to medium Sand, trace coarse Sand, little fine to coarse Gravel, trace Silt, dense-dry							
		34					1					
20					Boring Terminated at 20'							

TBL 23G166-3.GPJ SOCALGEO.GDT 11/9/23

TEST BORING LOG

PLATE B-8

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. B-9

JOB NO.: 23G166-3
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: 36 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3700.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
		12			ALLUVIUM: Light Brown Silty fine Sand, little medium to coarse Sand, trace fine root fibers, loose to medium dense-dry to damp	117	2					
		20				113	2					
5		27			Light Brown Clayey fine to medium Sand, little coarse Sand, trace fine root fibers, medium dense-moist	115	10					
		38			OLDER ALLUVIUM: Light Brown Silty fine Sand, little medium to coarse Sand, trace fine Gravel, medium dense-damp	116	4					
		39			Light Gray Brown fine to coarse Sand, trace Clay, little fine to coarse Gravel, medium dense to dense-damp	114	3					
10												
		47					4					
15												
		49			Light Brown Silty fine to coarse Sand, trace Clay, trace fine to coarse Gravel, dense to very dense-damp		4					
20												
		61					5					
25												
		54			Brown fine to coarse Sand, trace fine to coarse Gravel, very dense-very moist		11					

TBL 23G166-3.GPJ SOCALGEO.GDT 11/9/23

TEST BORING LOG

PLATE B-9a

JOB NO.: 23G166-3
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

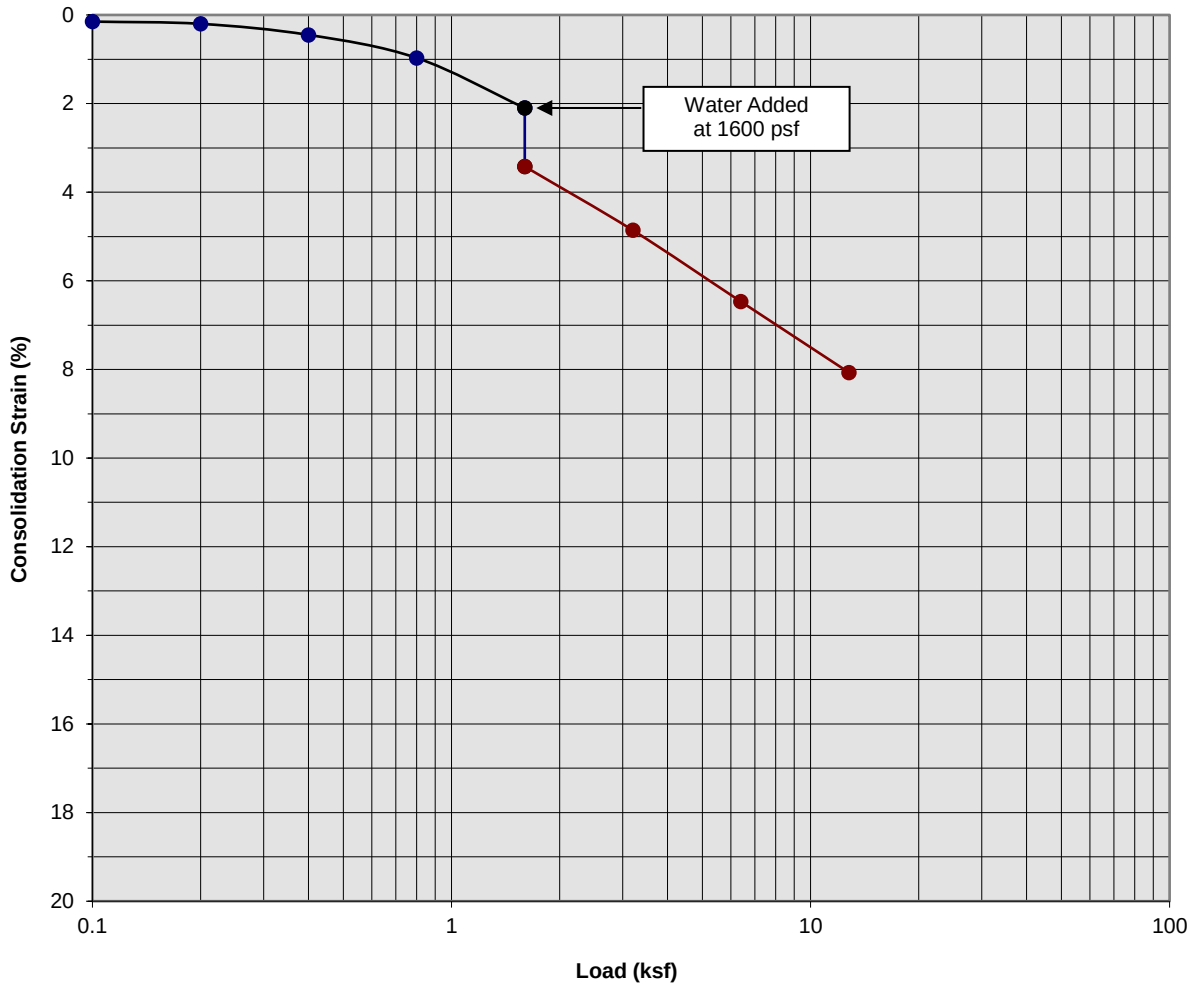
WATER DEPTH: Dry
CAVE DEPTH: 36 feet
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION (Continued)	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					Brown fine to coarse Sand, trace fine to coarse Gravel, very dense-very moist							
					Brown Clayey fine Sand to fine Sandy Clay, trace medium to coarse Sand, medium dense to hard-moist to very moist							
35		40	2.5				11					
					Brown Silty fine Sand to fine Sandy Silt, dense-moist							
		30					10					
40												
					Brown Clayey fine Sand to fine Sandy Clay, little Silt, medium dense to very dense to very stiff to hard-moist							
		27	4.0				10					
45												
		50	3.5				12					
50												
					Boring Terminated at 50'							

TBL 23G166-3.GPJ SOCALGEO.GDT 11/9/23

APPENDIX C

Consolidation/Collapse Test Results



Classification: Brown fine to coarse Sand, little Clay, trace Silt

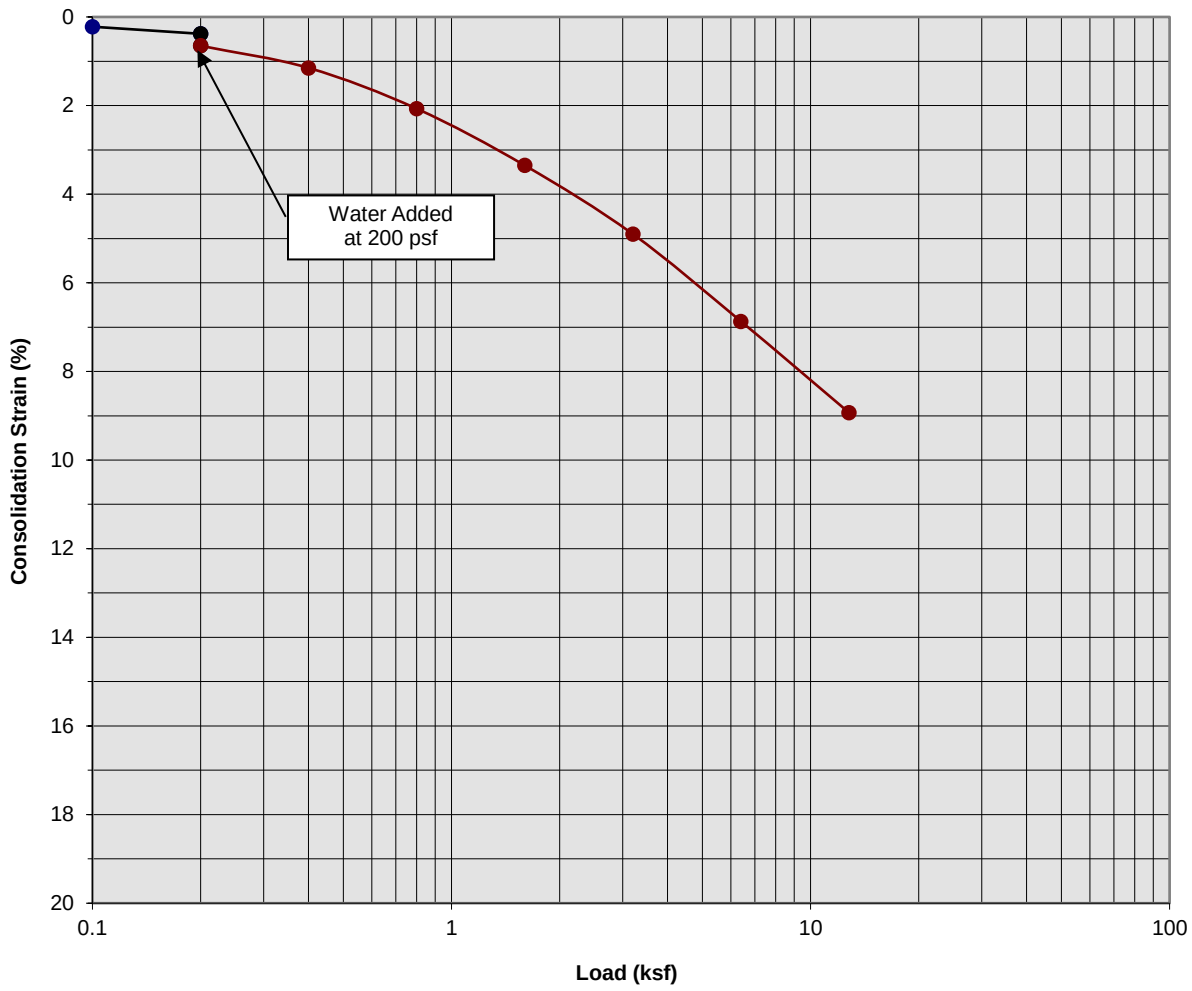
Boring Number:	B-1	Initial Moisture Content (%)	2
Sample Number:	---	Final Moisture Content (%)	13
Depth (ft)	3 to 4	Initial Dry Density (pcf)	124.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	134.4
Specimen Thickness (in)	1.0	Percent Collapse (%)	1.32

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-1

PLATE C- 1

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Consolidation/Collapse Test Results



Classification: Brown Clayey fine to coarse Sand, trace Silt, trace fine Gravel

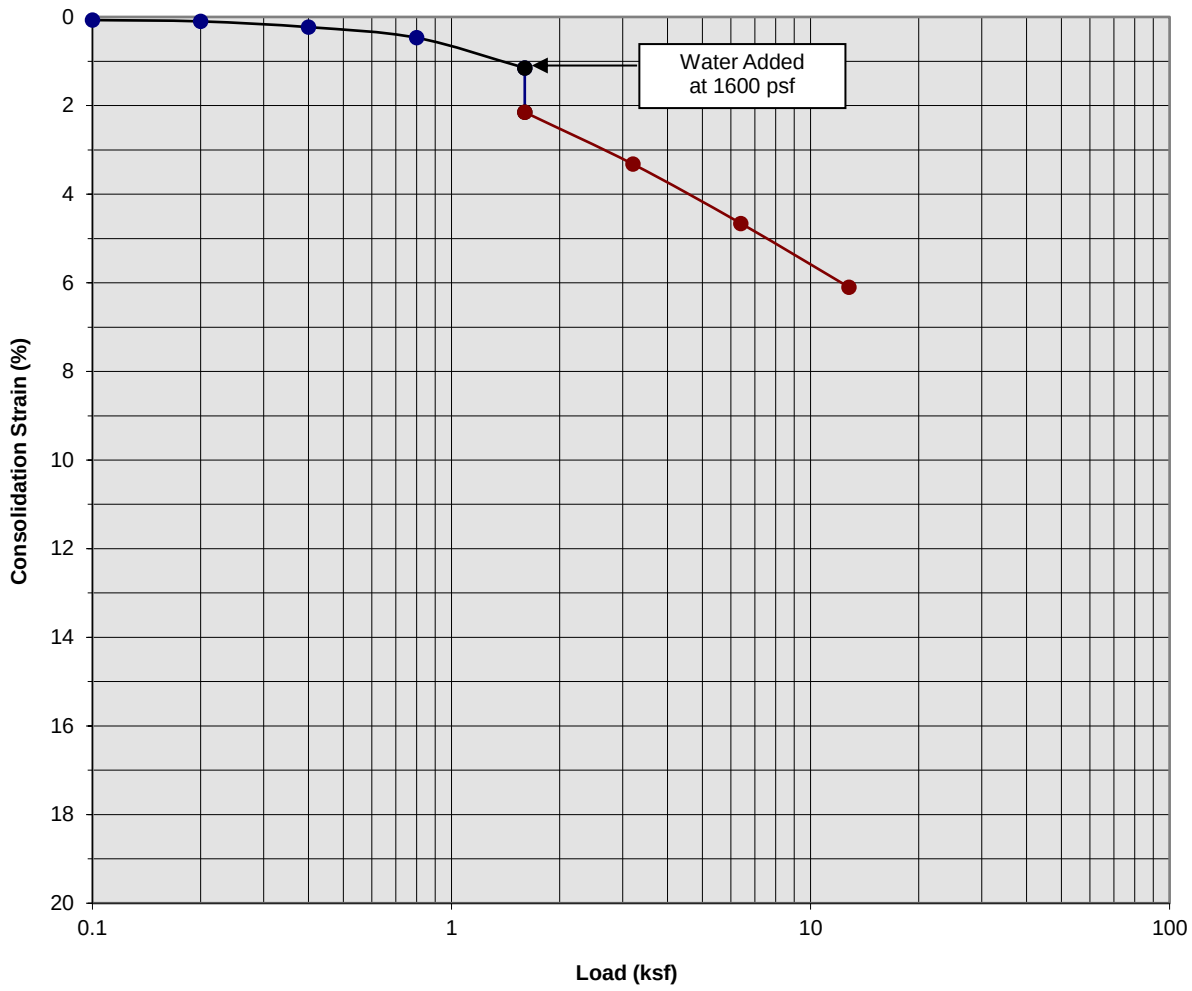
Boring Number:	B-1	Initial Moisture Content (%)	10
Sample Number:	---	Final Moisture Content (%)	11
Depth (ft)	5 to 6	Initial Dry Density (pcf)	124.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	135.6
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.27

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-1

PLATE C- 2

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Consolidation/Collapse Test Results



Classification: Light Brown fine to coarse Sand, little Clay

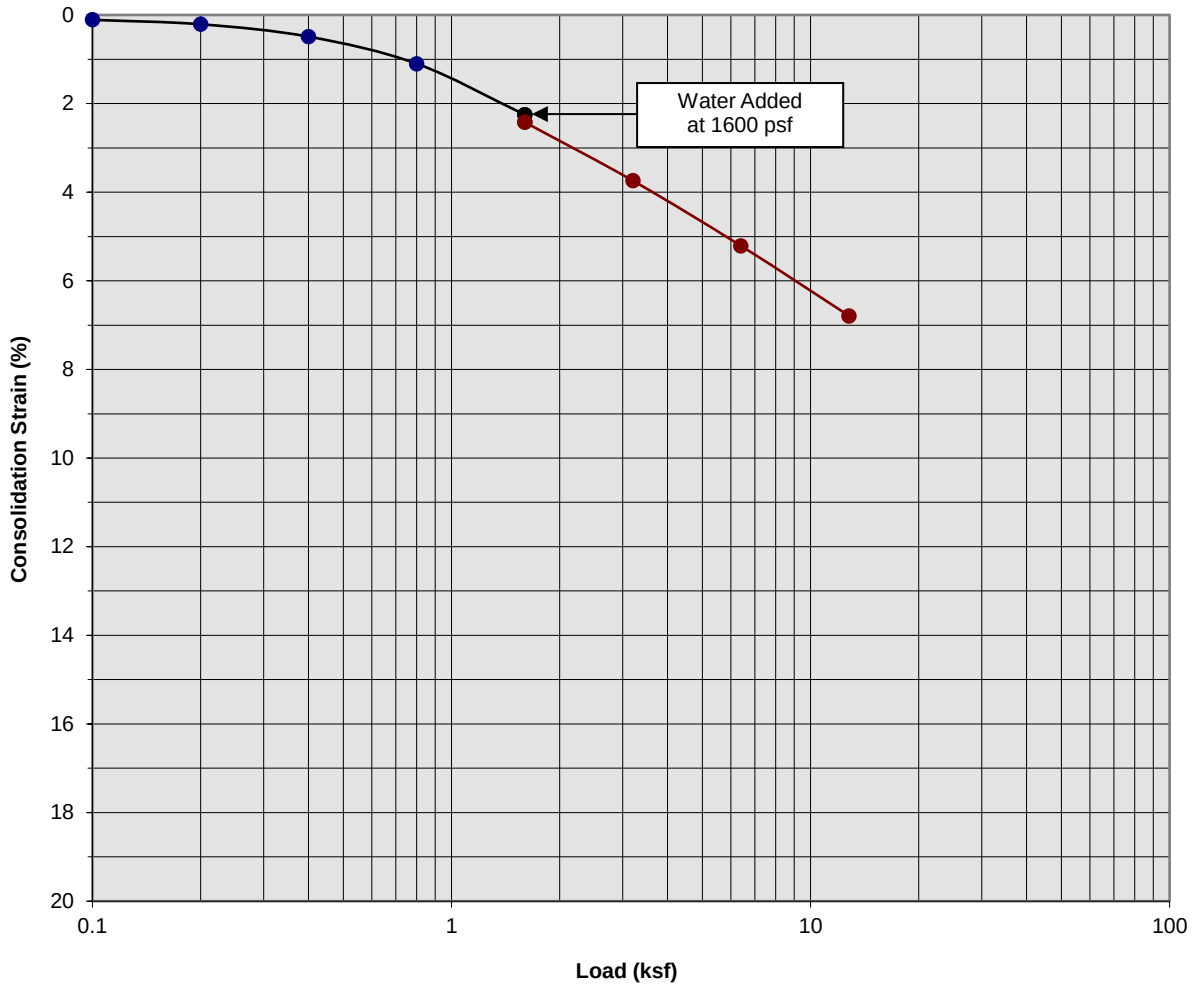
Boring Number:	B-1	Initial Moisture Content (%)	9
Sample Number:	---	Final Moisture Content (%)	12
Depth (ft)	7 to 8	Initial Dry Density (pcf)	119.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	126.3
Specimen Thickness (in)	1.0	Percent Collapse (%)	1.00

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-1

PLATE C- 3

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Consolidation/Collapse Test Results



Classification: Light Brown fine Sand, trace medium Sand, little Clay

Boring Number:	B-1	Initial Moisture Content (%)	8
Sample Number:	---	Final Moisture Content (%)	13
Depth (ft)	9 to 10	Initial Dry Density (pcf)	115.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	122.7
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.17

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-1

PLATE C- 4

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
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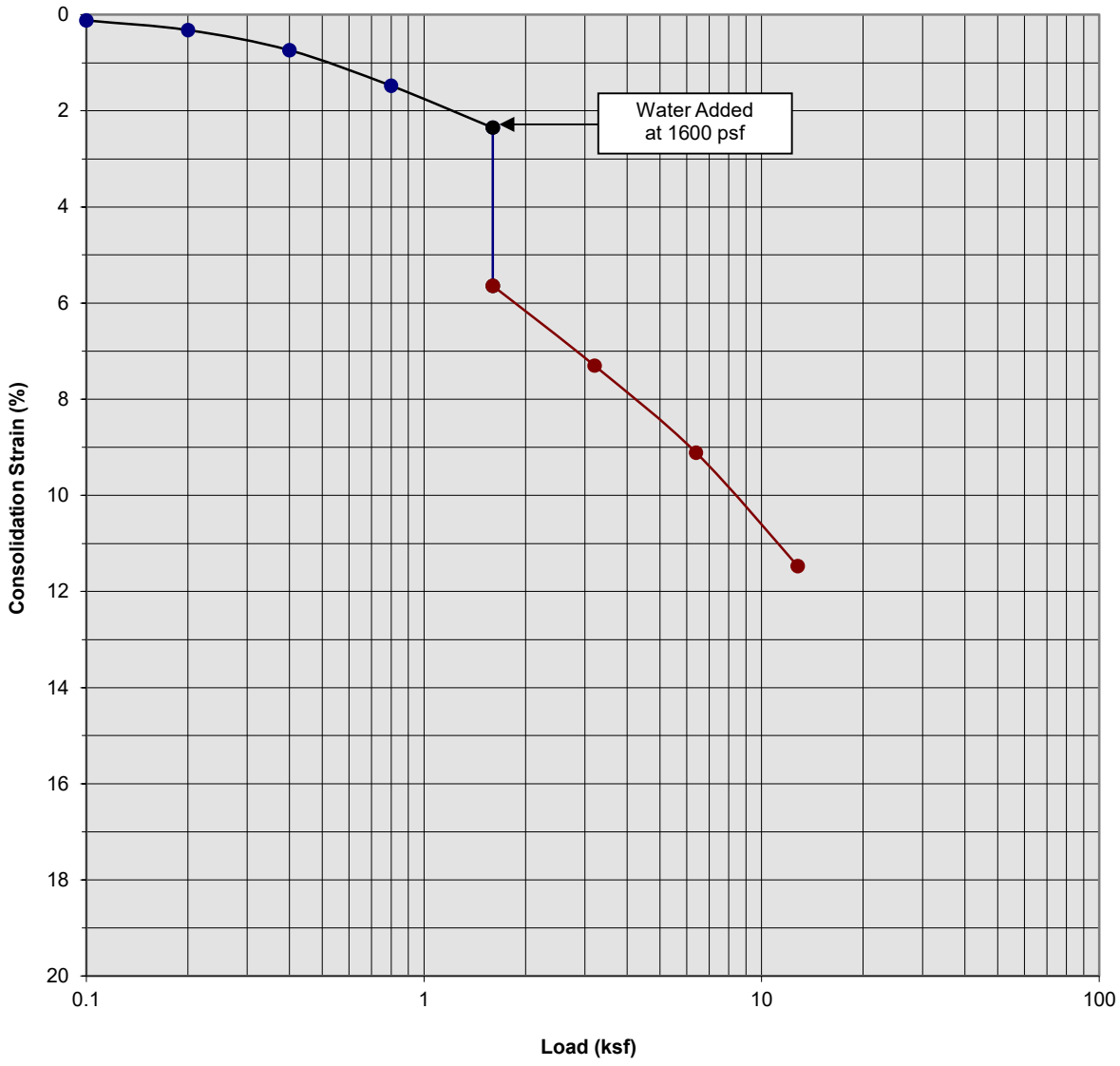
Consolidation/Collapse Test Results



Classification: Light Brown Silty fine Sand, little medium to coarse Sand, trace fine Gravel

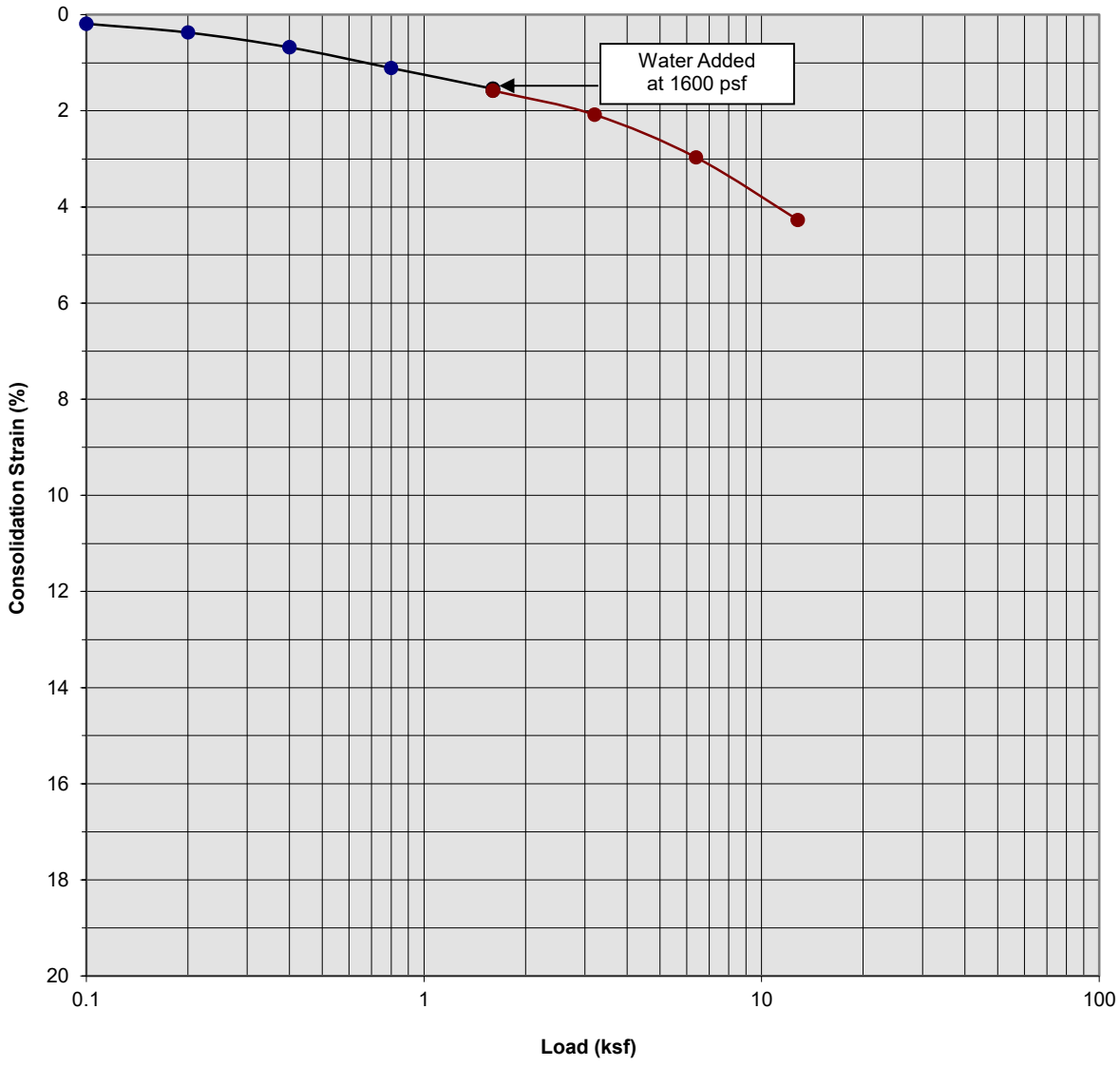
Boring Number:	B-7	Initial Moisture Content (%)	3
Sample Number:	---	Final Moisture Content (%)	12
Depth (ft)	3 to 4	Initial Dry Density (pcf)	112.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	126.1
Specimen Thickness (in)	1.0	Percent Collapse (%)	3.29

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-3

PLATE C- 5

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Consolidation/Collapse Test Results



Classification: Brown Silty fine to medium Sand, little coarse Sand, little Clay, trace fine to coarse Gravel

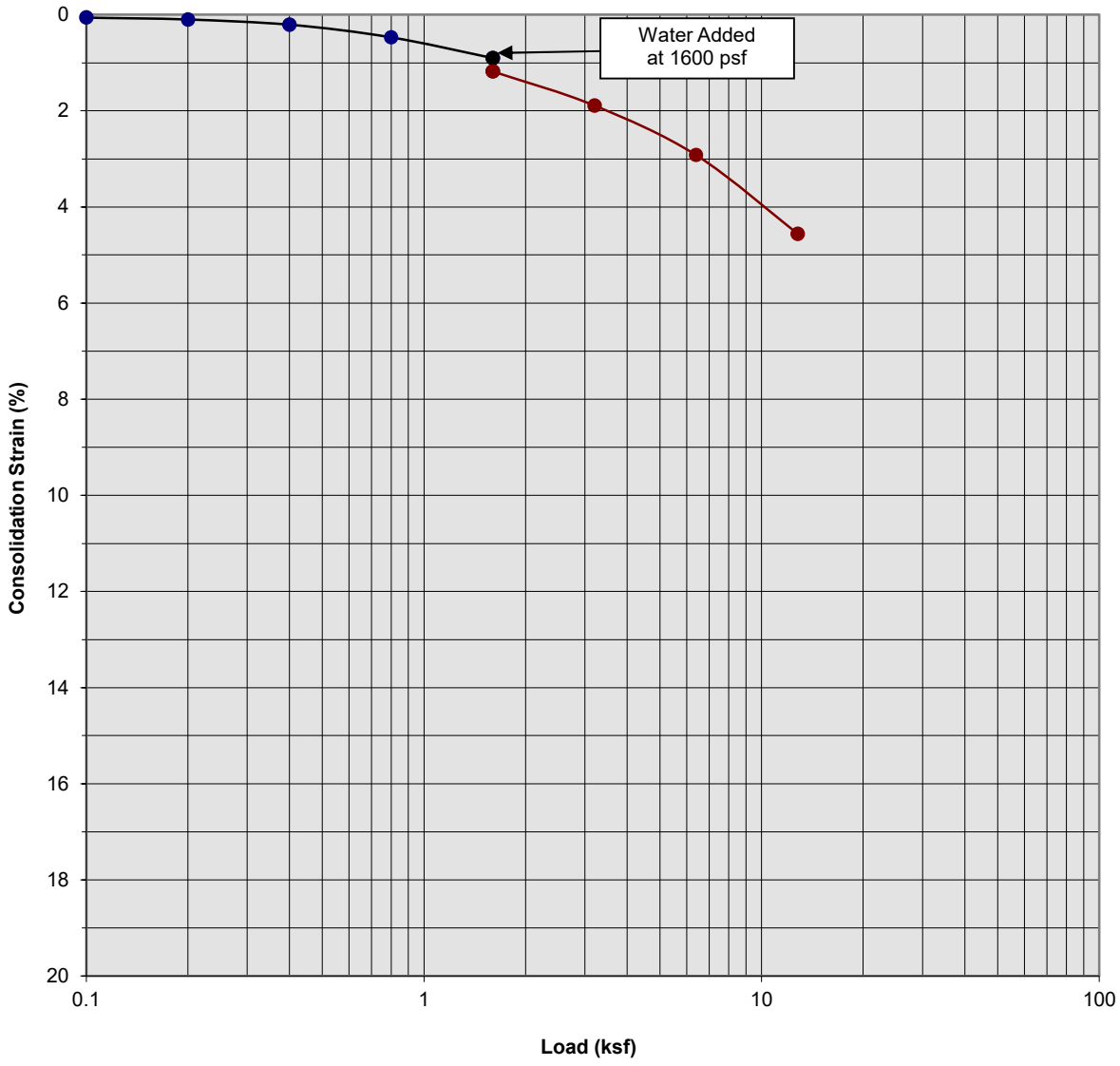
Boring Number:	B-7	Initial Moisture Content (%)	10
Sample Number:	---	Final Moisture Content (%)	13
Depth (ft)	5 to 6	Initial Dry Density (pcf)	118.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	123.1
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.04

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-3

PLATE C- 6

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

Consolidation/Collapse Test Results



Classification: Brown Silty fine to medium Sand, little coarse Sand, little Clay, trace fine to coarse Gravel

Boring Number:	B-7	Initial Moisture Content (%)	9
Sample Number:	---	Final Moisture Content (%)	13
Depth (ft)	7 to 8	Initial Dry Density (pcf)	120.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	125.1
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.28

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-3

PLATE C- 7

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
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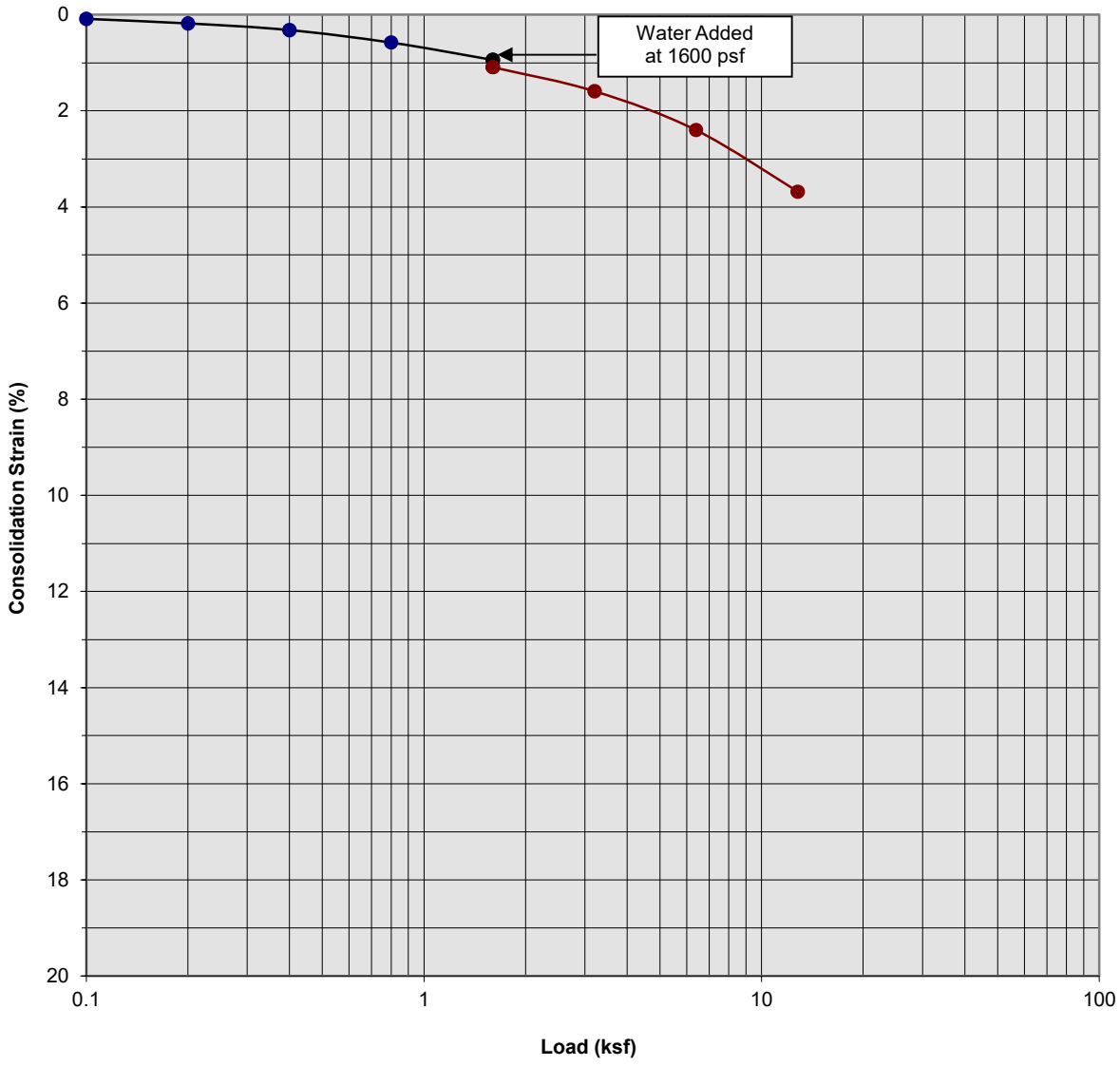
Consolidation/Collapse Test Results



Classification: Brown Clayey fine to coarse Sand, trace Silt, little fine to coarse Gravel

Boring Number:	B-7	Initial Moisture Content (%)	8
Sample Number:	---	Final Moisture Content (%)	16
Depth (ft)	9 to 10	Initial Dry Density (pcf)	124.0
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	128.6
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.15

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-3

PLATE C- 8

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
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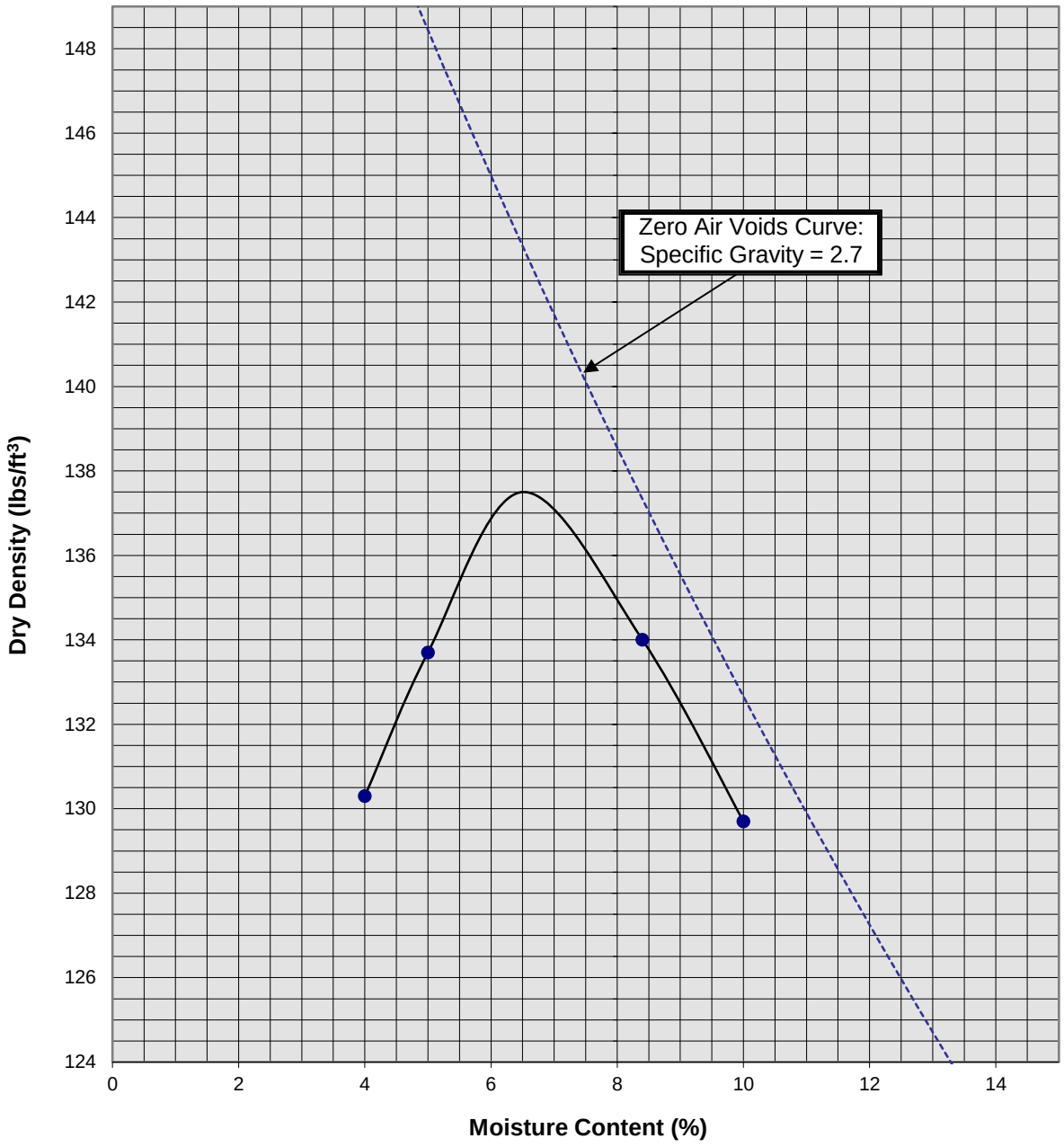
Moisture/Density Relationship
ASTM D-1557



Soil ID Number	B-6 @ 1-5'
Optimum Moisture (%)	6.5
Maximum Dry Density (pcf)	137.5
Soil Classification	Brown Clayey fine Sand, trace coarse Sand, trace fine Gravel

Hesperia Commerce Center - Lot 5
Hesperia, California
Project No. 23G166-3

PLATE C-9

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
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APPENDIX D

GRADING GUIDE SPECIFICATIONS

These grading guide specifications are intended to provide typical procedures for grading operations. They are intended to supplement the recommendations contained in the geotechnical investigation report for this project. Should the recommendations in the geotechnical investigation report conflict with the grading guide specifications, the more site specific recommendations in the geotechnical investigation report will govern.

General

- The Earthwork Contractor is responsible for the satisfactory completion of all earthwork in accordance with the plans and geotechnical reports, and in accordance with city, county, and applicable building codes.

- The Geotechnical Engineer is the representative of the Owner/Builder for the purpose of implementing the report recommendations and guidelines. These duties are not intended to relieve the Earthwork Contractor of any responsibility to perform in a workman-like manner, nor is the Geotechnical Engineer to direct the grading equipment or personnel employed by the Contractor.

- The Earthwork Contractor is required to notify the Geotechnical Engineer of the anticipated work and schedule so that testing and inspections can be provided. If necessary, work may be stopped and redone if personnel have not been scheduled in advance.

- The Earthwork Contractor is required to have suitable and sufficient equipment on the job-site to process, moisture condition, mix and compact the amount of fill being placed to the approved compaction. In addition, suitable support equipment should be available to conform with recommendations and guidelines in this report.

- Canyon cleanouts, overexcavation areas, processed ground to receive fill, key excavations, subdrains and benches should be observed by the Geotechnical Engineer prior to placement of any fill. It is the Earthwork Contractor's responsibility to notify the Geotechnical Engineer of areas that are ready for inspection.

- Excavation, filling, and subgrade preparation should be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs, and seepage water encountered shall be pumped or drained to provide a suitable working surface. The Geotechnical Engineer must be informed of springs or water seepage encountered during grading or foundation construction for possible revision to the recommended construction procedures and/or installation of subdrains.

Site Preparation

- The Earthwork Contractor is responsible for all clearing, grubbing, stripping and site preparation for the project in accordance with the recommendations of the Geotechnical Engineer.

- If any materials or areas are encountered by the Earthwork Contractor which are suspected of having toxic or environmentally sensitive contamination, the Geotechnical Engineer and Owner/Builder should be notified immediately.

- Major vegetation should be stripped and disposed of off-site. This includes trees, brush, heavy grasses and any materials considered unsuitable by the Geotechnical Engineer.

- Underground structures such as basements, cesspools or septic disposal systems, mining shafts, tunnels, wells and pipelines should be removed under the inspection of the Geotechnical Engineer and recommendations provided by the Geotechnical Engineer and/or city, county or state agencies. If such structures are known or found, the Geotechnical Engineer should be notified as soon as possible so that recommendations can be formulated.

- Any topsoil, slopewash, colluvium, alluvium and rock materials which are considered unsuitable by the Geotechnical Engineer should be removed prior to fill placement.

- Remaining voids created during site clearing caused by removal of trees, foundations basements, irrigation facilities, etc., should be excavated and filled with compacted fill.

- Subsequent to clearing and removals, areas to receive fill should be scarified to a depth of 10 to 12 inches, moisture conditioned and compacted

- The moisture condition of the processed ground should be at or slightly above the optimum moisture content as determined by the Geotechnical Engineer. Depending upon field conditions, this may require air drying or watering together with mixing and/or discing.

Compacted Fills

- Soil materials imported to or excavated on the property may be utilized in the fill, provided each material has been determined to be suitable in the opinion of the Geotechnical Engineer. Unless otherwise approved by the Geotechnical Engineer, all fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as “contaminated,” and shall be very low to non-expansive with a maximum expansion index (EI) of 50. The top 12 inches of the compacted fill should have a maximum particle size of 3 inches, and all underlying compacted fill material a maximum 6-inch particle size, except as noted below.

- All soils should be evaluated and tested by the Geotechnical Engineer. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or selective placement and/or mixing to the satisfaction of the Geotechnical Engineer.

- Rock fragments or rocks less than 6 inches in their largest dimensions, or as otherwise determined by the Geotechnical Engineer, may be used in compacted fill, provided the distribution and placement is satisfactory in the opinion of the Geotechnical Engineer.

- Rock fragments or rocks greater than 12 inches should be taken off-site or placed in accordance with recommendations and in areas designated as suitable by the Geotechnical Engineer. These materials should be placed in accordance with Plate D-8 of these Grading Guide Specifications and in accordance with the following recommendations:

    - Rocks 12 inches or more in diameter should be placed in rows at least 15 feet apart, 15 feet from the edge of the fill, and 10 feet or more below subgrade. Spaces should be left between each rock fragment to provide for placement and compaction of soil around the fragments.

    - Fill materials consisting of soil meeting the minimum moisture content requirements and free of oversize material should be placed between and over the rows of rock or

concrete. Ample water and compactive effort should be applied to the fill materials as they are placed in order that all of the voids between each of the fragments are filled and compacted to the specified density.

- Subsequent rows of rocks should be placed such that they are not directly above a row placed in the previous lift of fill. A minimum 5-foot offset between rows is recommended.

- To facilitate future trenching, oversized material should not be placed within the range of foundation excavations, future utilities or other underground construction unless specifically approved by the soil engineer and the developer/owner representative.

- Fill materials approved by the Geotechnical Engineer should be placed in areas previously prepared to receive fill and in evenly placed, near horizontal layers at about 6 to 8 inches in loose thickness, or as otherwise determined by the Geotechnical Engineer for the project.

- Each layer should be moisture conditioned to optimum moisture content, or slightly above, as directed by the Geotechnical Engineer. After proper mixing and/or drying, to evenly distribute the moisture, the layers should be compacted to at least 90 percent of the maximum dry density in compliance with ASTM D-1557-78 unless otherwise indicated.

- Density and moisture content testing should be performed by the Geotechnical Engineer at random intervals and locations as determined by the Geotechnical Engineer. These tests are intended as an aid to the Earthwork Contractor, so he can evaluate his workmanship, equipment effectiveness and site conditions. The Earthwork Contractor is responsible for compaction as required by the Geotechnical Report(s) and governmental agencies.

- Fill areas unused for a period of time may require moisture conditioning, processing and recompaction prior to the start of additional filling. The Earthwork Contractor should notify the Geotechnical Engineer of his intent so that an evaluation can be made.

- Fill placed on ground sloping at a 5-to-1 inclination (horizontal-to-vertical) or steeper should be benched into bedrock or other suitable materials, as directed by the Geotechnical Engineer. Typical details of benching are illustrated on Plates D-2, D-4, and D-5.

- Cut/fill transition lots should have the cut portion overexcavated to a depth of at least 3 feet and rebuilt with fill (see Plate D-1), as determined by the Geotechnical Engineer.

- All cut lots should be inspected by the Geotechnical Engineer for fracturing and other bedrock conditions. If necessary, the pads should be overexcavated to a depth of 3 feet and rebuilt with a uniform, more cohesive soil type to impede moisture penetration.

- Cut portions of pad areas above buttresses or stabilizations should be overexcavated to a depth of 3 feet and rebuilt with uniform, more cohesive compacted fill to impede moisture penetration.

- Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure that excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below grade walls must be properly tested and approved by the Geotechnical Engineer with consideration of the lateral earth pressure used in the design.

Foundations

- The foundation influence zone is defined as extending one foot horizontally from the outside edge of a footing, and proceeding downward at a ½ horizontal to 1 vertical (0.5:1) inclination.

- Where overexcavation beneath a footing subgrade is necessary, it should be conducted so as to encompass the entire foundation influence zone, as described above.

- Compacted fill adjacent to exterior footings should extend at least 12 inches above foundation bearing grade. Compacted fill within the interior of structures should extend to the floor subgrade elevation.

Fill Slopes

- The placement and compaction of fill described above applies to all fill slopes. Slope compaction should be accomplished by overfilling the slope, adequately compacting the fill in even layers, including the overfilled zone and cutting the slope back to expose the compacted core

- Slope compaction may also be achieved by backrolling the slope adequately every 2 to 4 vertical feet during the filling process as well as requiring the earth moving and compaction equipment to work close to the top of the slope. Upon completion of slope construction, the slope face should be compacted with a sheepsfoot connected to a sideboom and then grid rolled. This method of slope compaction should only be used if approved by the Geotechnical Engineer.

- Sandy soils lacking in adequate cohesion may be unstable for a finished slope condition and therefore should not be placed within 15 horizontal feet of the slope face.

- All fill slopes should be keyed into bedrock or other suitable material. Fill keys should be at least 15 feet wide and inclined at 2 percent into the slope. For slopes higher than 30 feet, the fill key width should be equal to one-half the height of the slope (see Plate D-5).

- All fill keys should be cleared of loose slough material prior to geotechnical inspection and should be approved by the Geotechnical Engineer and governmental agencies prior to filling.

- The cut portion of fill over cut slopes should be made first and inspected by the Geotechnical Engineer for possible stabilization requirements. The fill portion should be adequately keyed through all surficial soils and into bedrock or suitable material. Soils should be removed from the transition zone between the cut and fill portions (see Plate D-2).

Cut Slopes

- All cut slopes should be inspected by the Geotechnical Engineer to determine the need for stabilization. The Earthwork Contractor should notify the Geotechnical Engineer when slope cutting is in progress at intervals of 10 vertical feet. Failure to notify may result in a delay in recommendations.

- Cut slopes exposing loose, cohesionless sands should be reported to the Geotechnical Engineer for possible stabilization recommendations.

- All stabilization excavations should be cleared of loose slough material prior to geotechnical inspection. Stakes should be provided by the Civil Engineer to verify the location and dimensions of the key. A typical stabilization fill detail is shown on Plate D-5.

- Stabilization key excavations should be provided with subdrains. Typical subdrain details are shown on Plates D-6.

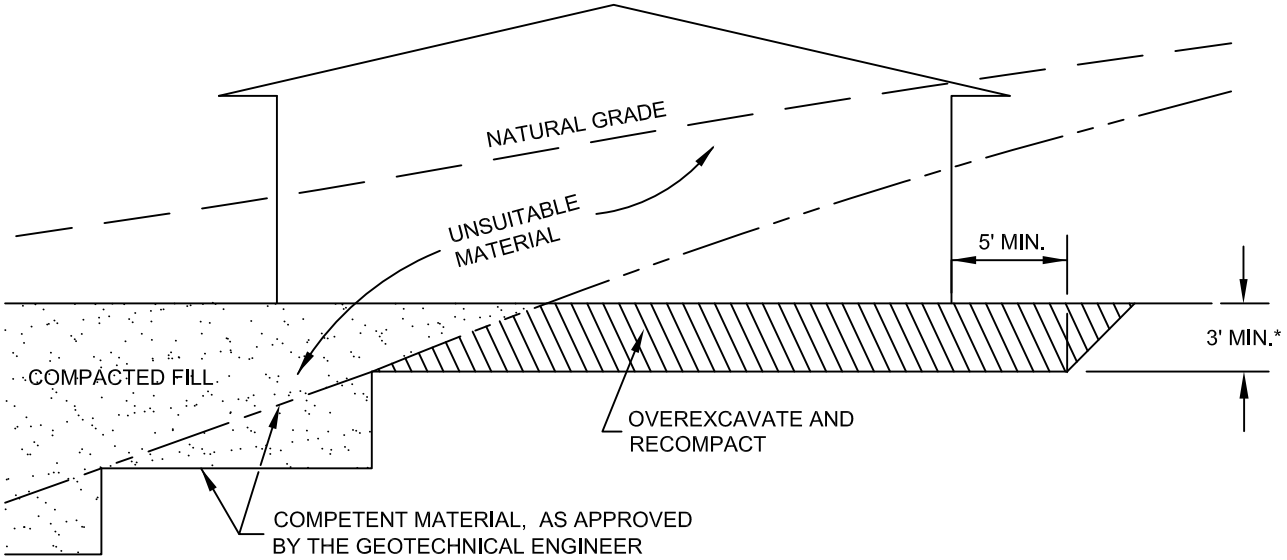
Subdrains

- Subdrains may be required in canyons and swales where fill placement is proposed. Typical subdrain details for canyons are shown on Plate D-3. Subdrains should be installed after approval of removals and before filling, as determined by the Soils Engineer.

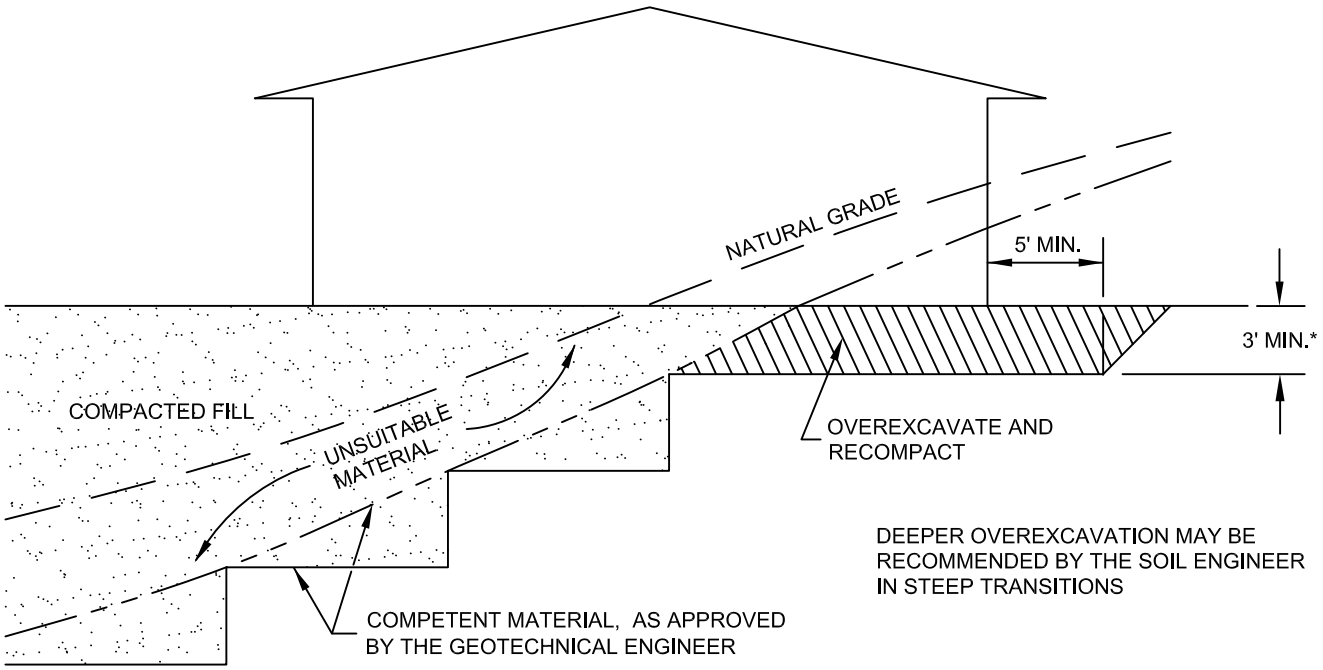
- Plastic pipe may be used for subdrains provided it is Schedule 40 or SDR 35 or equivalent. Pipe should be protected against breakage, typically by placement in a square-cut (backhoe) trench or as recommended by the manufacturer.

- Filter material for subdrains should conform to CALTRANS Specification 68-1.025 or as approved by the Geotechnical Engineer for the specific site conditions. Clean ¾-inch crushed rock may be used provided it is wrapped in an acceptable filter cloth and approved by the Geotechnical Engineer. Pipe diameters should be 6 inches for runs up to 500 feet and 8 inches for the downstream continuations of longer runs. Four-inch diameter pipe may be used in buttress and stabilization fills.

CUT LOT



CUT/FILL LOT (TRANSITION)



*SEE TEXT OF REPORT FOR SPECIFIC RECOMMENDATION. ACTUAL DEPTH OF OVEREXCAVATION MAY BE GREATER.

TRANSITION LOT DETAIL

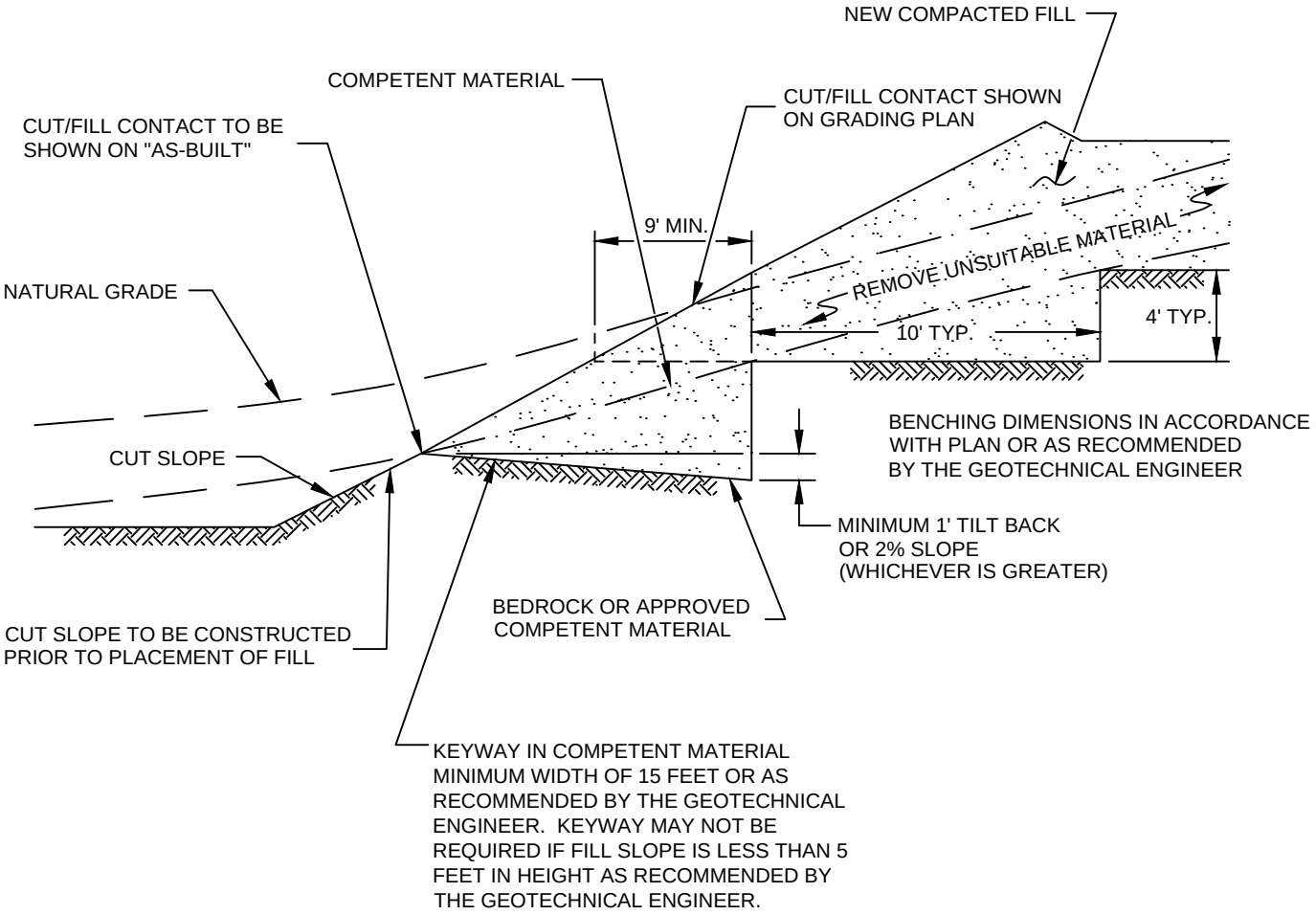
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-1

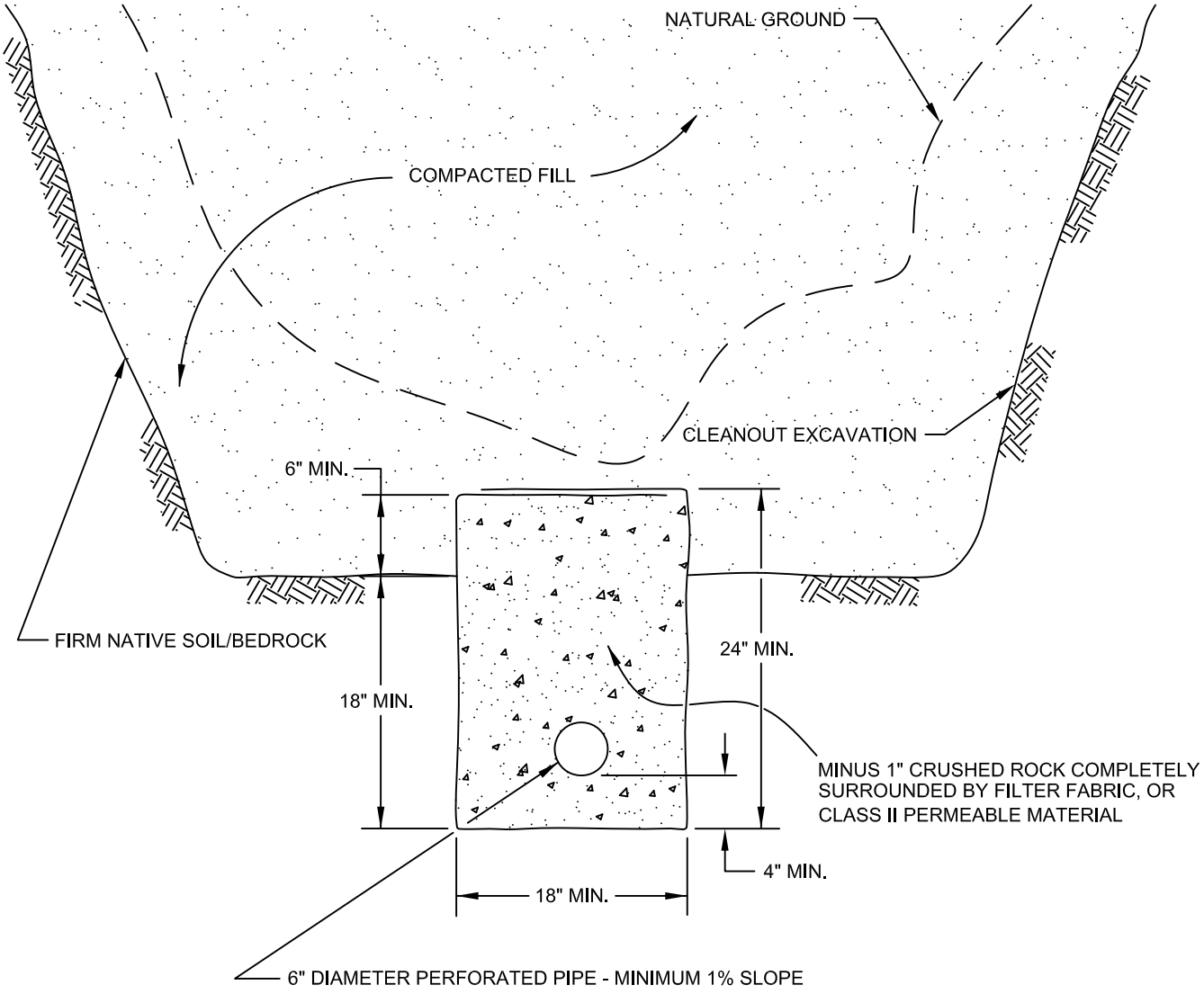
SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL



FILL ABOVE CUT SLOPE DETAIL

GRADING GUIDE SPECIFICATIONS

NOT TO SCALE	SoCalGeo SOUTHERN CALIFORNIA GEOTECHNICAL
DRAWN: JAS CHKD: GKM	
PLATE D-2	



PIPE MATERIAL	DEPTH OF FILL OVER SUBDRAIN
ADS (CORRUGATED POLETHYLENE)	8
TRANSITE UNDERDRAIN	20
PVC OR ABS: SDR 35	35
SDR 21	100

SCHEMATIC ONLY
NOT TO SCALE

CANYON SUBDRAIN DETAIL

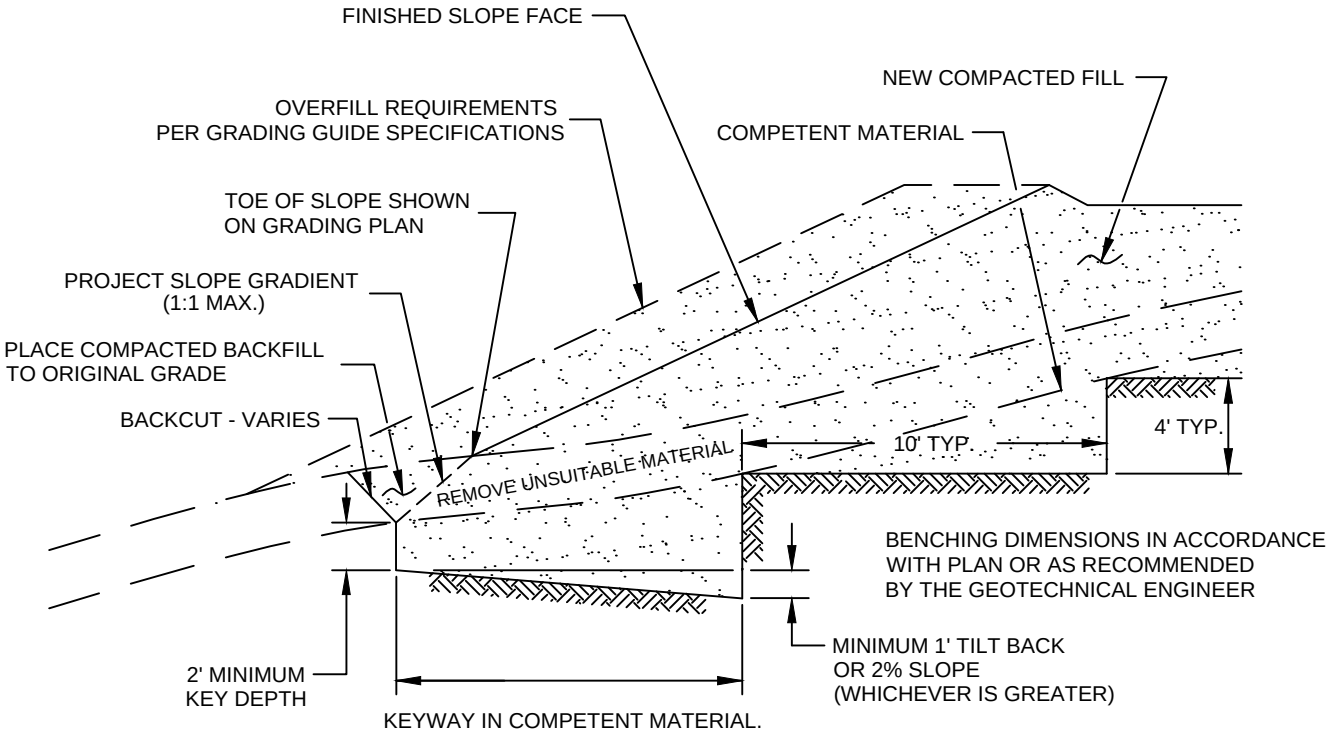
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-3

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL



NOTE:
BENCHING SHALL BE REQUIRED WHEN NATURAL SLOPES ARE EQUAL TO OR STEEPER THAN 5:1 OR WHEN RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

FILL ABOVE NATURAL SLOPE DETAIL

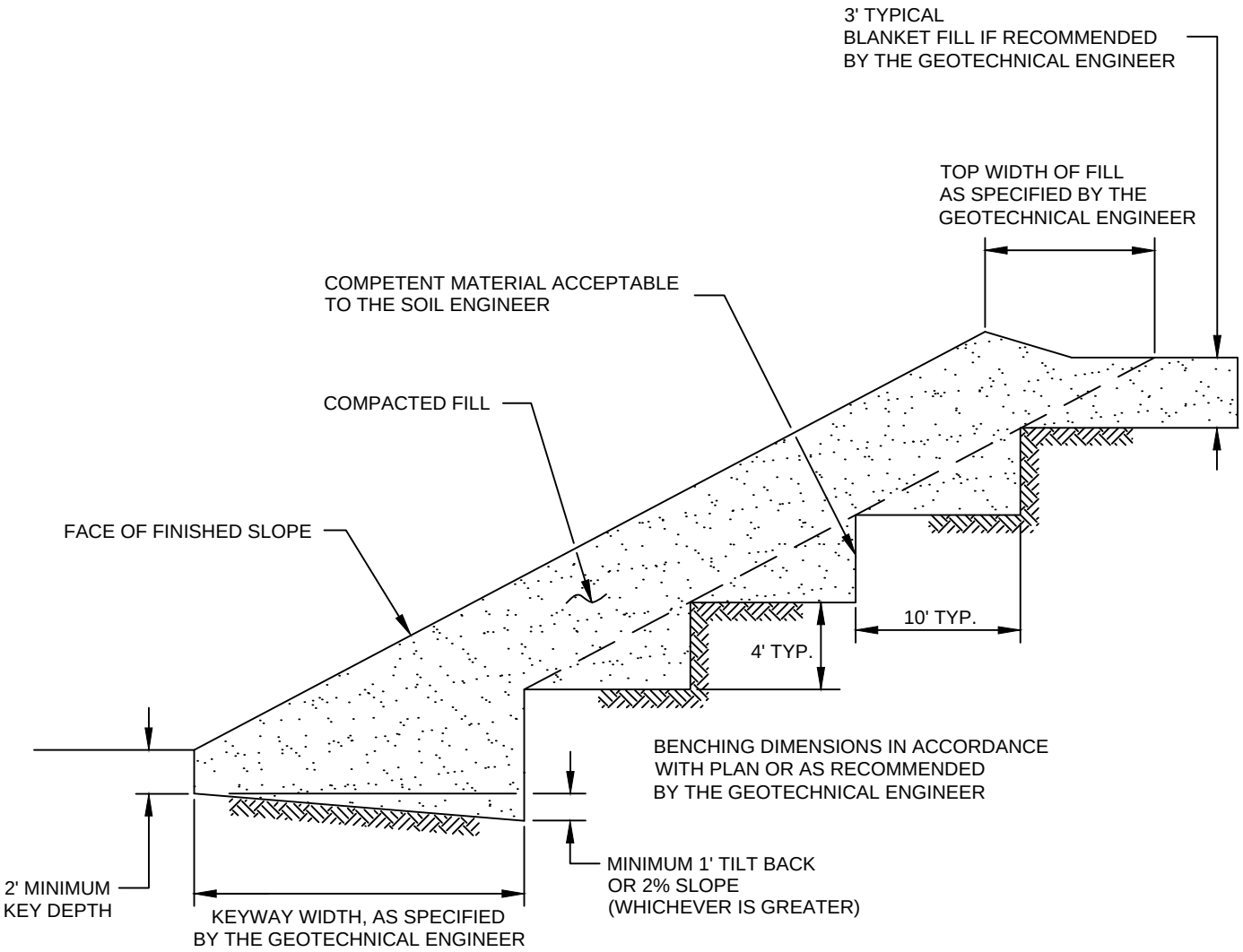
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-4

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL



STABILIZATION FILL DETAIL

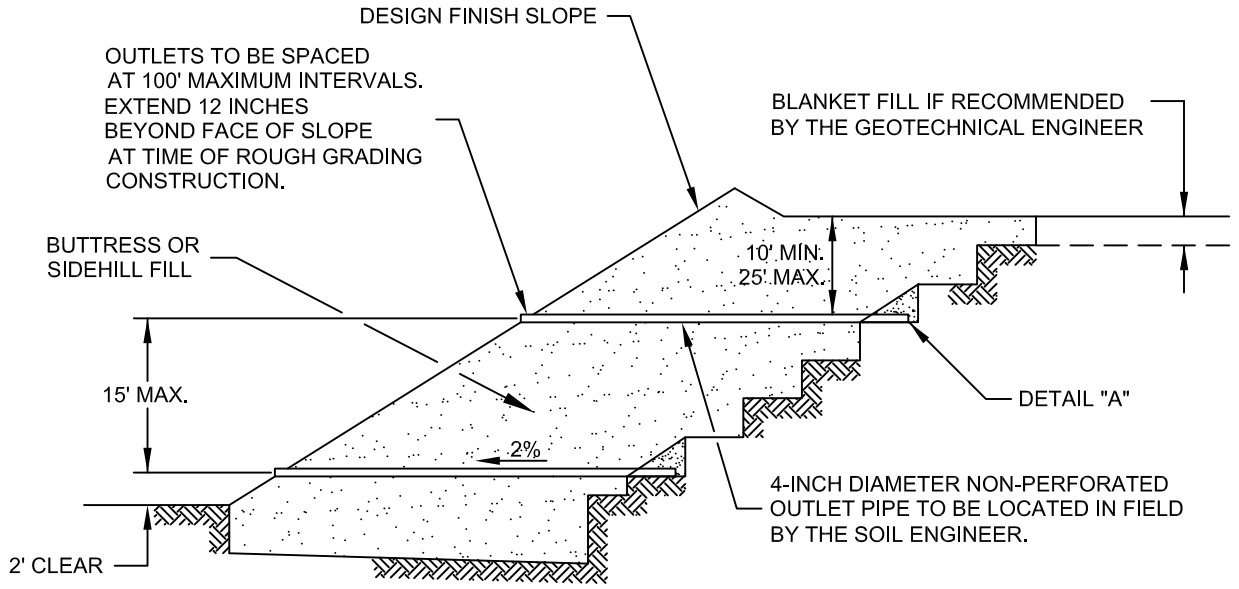
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

PLATE D-5

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL



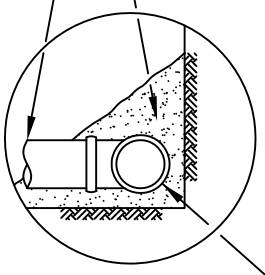
"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8

SAND EQUIVALENT = MINIMUM OF 50



DETAIL "A"

FILTER MATERIAL - MINIMUM OF FIVE CUBIC FEET PER FOOT OF PIPE. SEE ABOVE FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL FIVE CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE ABOVE FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 12 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.

NOTES:
1. TRENCH FOR OUTLET PIPES TO BE BACKFILLED WITH ON-SITE SOIL.

SLOPE FILL SUBDRAINS

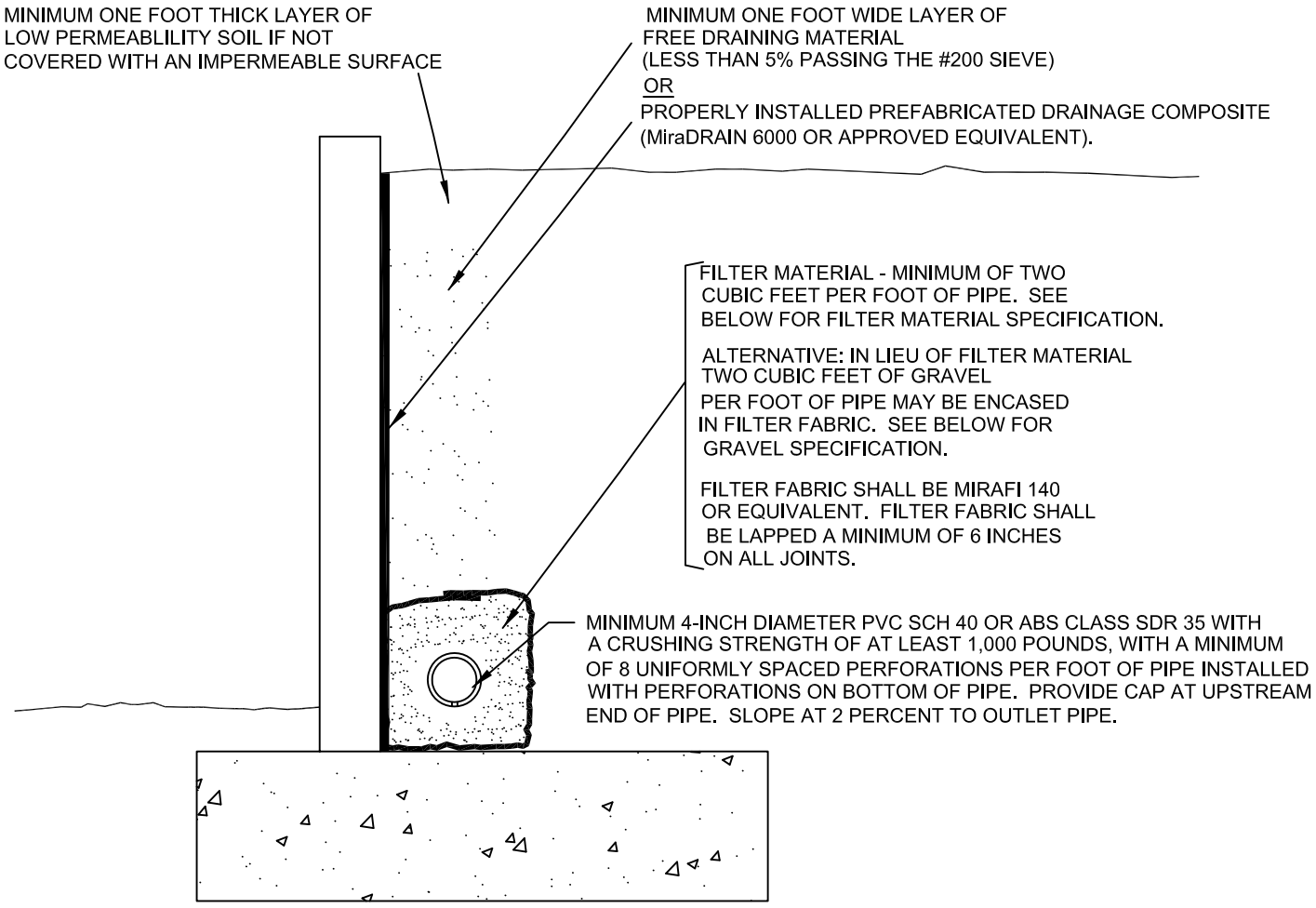
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: JAS
CHKD: GKM

SOUTHERN CALIFORNIA GEOTECHNICAL

PLATE D-6



"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8

SAND EQUIVALENT = MINIMUM OF 50

RETAINING WALL BACKDRAINS

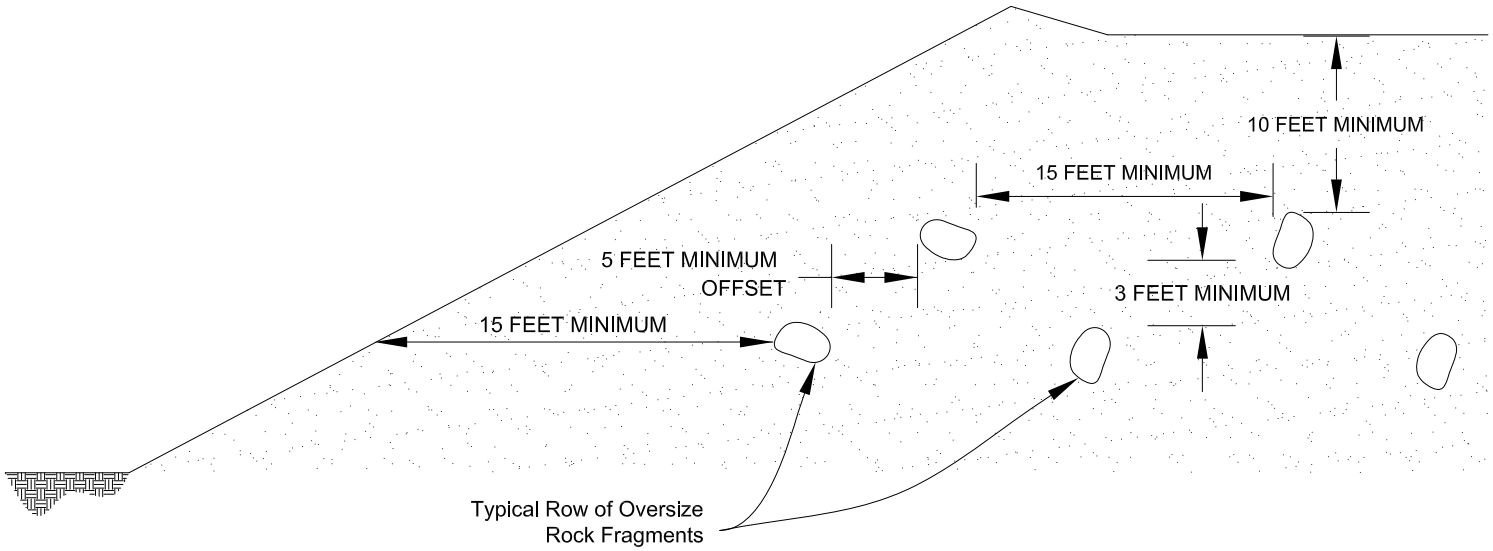
GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

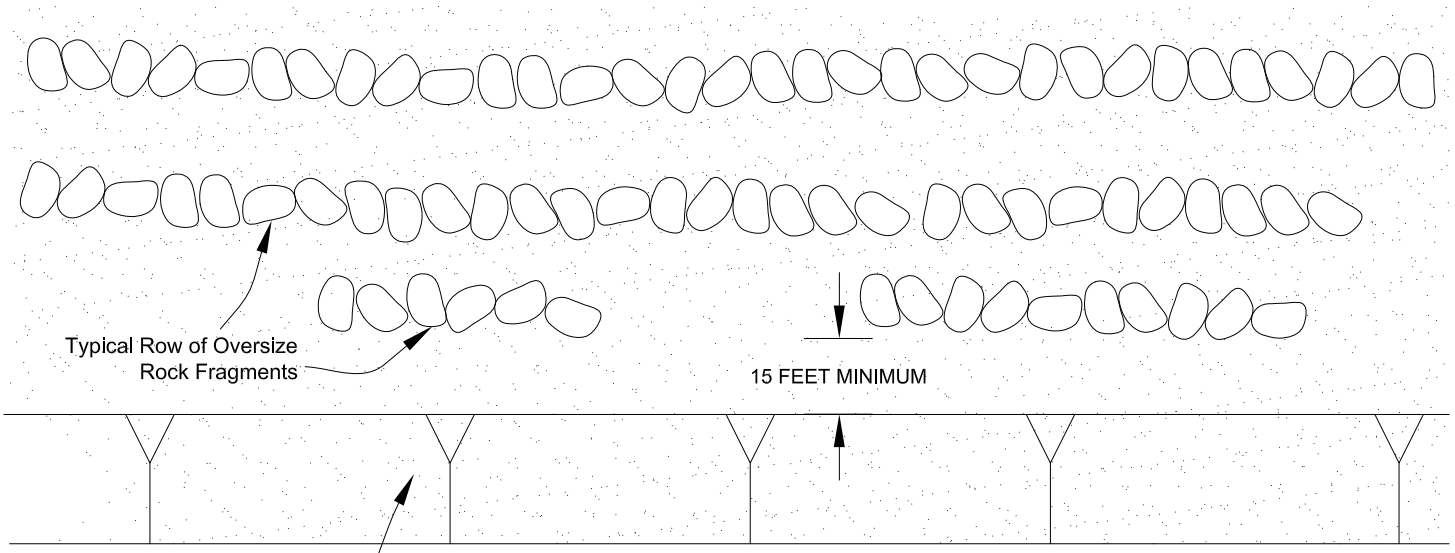
DRAWN: JAS
CHKD: GKM

SOUTHERN CALIFORNIA GEOTECHNICAL

PLATE D-7



Section View



Plan View

PLACEMENT OF OVERSIZED MATERIAL

GRADING GUIDE SPECIFICATIONS

NOT TO SCALE

DRAWN: PM
CHKD: GKM

PLATE D-8

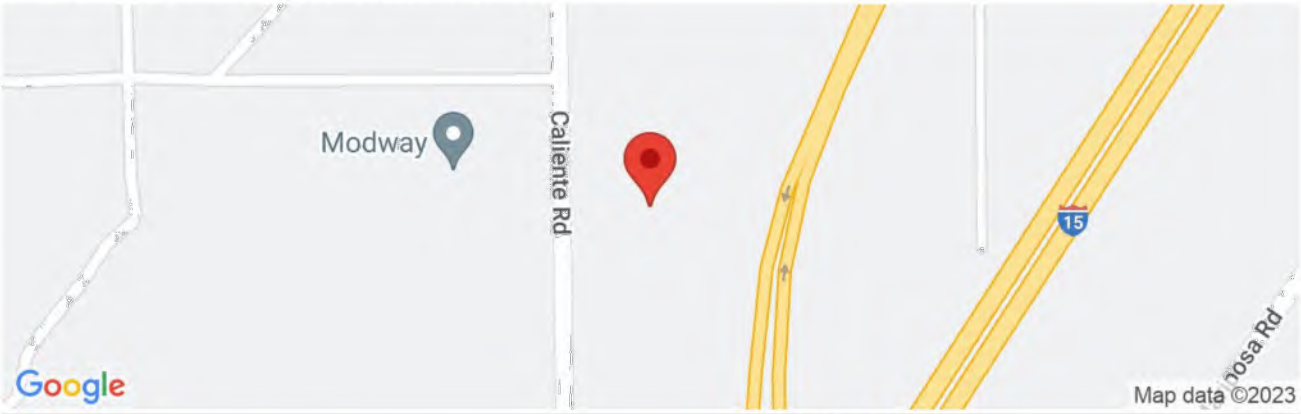
SoCalGeo

SOUTHERN CALIFORNIA GEOTECHNICAL

APPENDIX E

OSHPD

Latitude, Longitude: 34.40384537, -117.40265618



Date	8/10/2023, 12:58:59 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.5	MCE_R ground motion. (for 0.2 second period)
S_1	0.6	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.5	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.537	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.591	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	1.681	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.813	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.657	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.725	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.537	Factored deterministic acceleration value. (Peak Ground Acceleration)

SOURCE: SEAOC/OSHPD Seismic Design Maps Tool
<https://seismicmaps.org/>

SEISMIC DESIGN PARAMETERS - 2022 CBC
HESPERIA COMMERCE CENTER - LOT 5
HESPERIA, CALIFORNIA

DRAWN: JJH
CHKD: PM
SCG PROJECT 23G166-3
PLATE E-1

SOUTHERN CALIFORNIA GEOTECHNICAL

Appendix F
Infiltration Testing

November 14, 2023

Caliente 395 LLC
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Attention: Mr. Gregg Allen
Senior Vice President Construction

Project No.: **23G166-4**

Subject: **Results of Infiltration Testing**
Hesperia Commerce Center – Lot 5
Caliente Road, 940± feet South of Joshua Street
Hesperia, California

Reference: Geotechnical Investigation, Hesperia Commerce Center – Lot 5, Caliente Road, 940± feet South of Joshua Street, Hesperia, California, prepared by Southern California Geotechnical, Inc. (SCG) for Caliente 395 LLC, SCG Project No. 23G166-3, dated November 9, 2023.

Mr. Allen:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

Scope of Services

The scope of services performed for this project was in general accordance with our Proposal No. 23P315R, dated July 11, 2023, and our Change Order No. 23G166-CO2, dated October 12, 2023. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site soils for the stormwater disposal system.

The infiltration testing for the shallow infiltration system located in the eastern area of the site was performed in general accordance with the guidelines published in the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December, 2013. The San Bernardino County standards defer to the guidelines published by the RCDEH.

The infiltration testing for the shallow infiltration systems located in the north, south, and west were performed in general accordance with ASTM test method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

The deep infiltration tests were performed using the constant-head method to analyze the infiltration characteristics of soils at greater depths for potential dry well infiltration systems.

Site and Project Description

The subject site is located on the east side of Caliente Road, 940± feet south of Joshua Street in Hesperia, California. The site is bounded to the north by a vacant lot, to the east by Highway 395, to the south by the San Bernardino County Fire Station 305, and to the west by Caliente Road. The general location of the site is illustrated on the Site Location Map, included as Plate 1 of this report.

The site consists of a rectangular-shaped parcel, 11± acres in size. The site is vacant and undeveloped. Ground surface cover throughout the site consists of exposed soil with moderate to heavy native grass and weed growth with some shrubs. A drainage course is located in the western region of the site. The drainage course runs in a south-to-north direction, beginning from a storm drain headwall located in the southwest region of the site, downward towards another existing headwall located in the northwest region of the site.

Our office reviewed the Conceptual Grading Plan prepared by WestLand Group, Inc. (WGI), the project civil engineer. Based on the topographic information provided in this plan, the overall site topography slopes downward to the north at gradients of 1 to 2± percent. However, the overall site topography is generally lower in elevation than the adjacent public ways and adjacent properties surrounding the site. At the project boundaries, the existing grades slope up to the property lines at inclinations ranging from 2h:1v (horizontal to vertical) to 1h:1v. In the western region of the site, the site topography slopes into the drainage course at gradients ranging from of 10 to 20± percent with some isolated steeper embankments. Grades within the drainage course are lower in elevation than the remainder of the site by 5 to 16± feet.

The overall site topographic elevation low of 3,685± feet mean sea level (msl) is located within the drainage course in the northwest region of the site. The topographic high of 3,715± feet msl elevation is in the southern region of the site. An existing slope is located along the southern boundary of the site. The slope ranges in height from 6 to 12± feet and possesses a maximum inclination of 2h:1v (horizontal to vertical). There is approximately 15 to 30 feet of elevation differential across the overall site.

3.2 Proposed Development

Based on a conceptual site plan provided by the client and prepared by RGA, the site will be developed with one (1) new commercial/industrial building, 150,000± ft^2 in size, located in the northwest area of the site. The building is expected to be constructed with dock-high doors along a portion of the east building wall. The remaining areas of the site will be developed with asphaltic concrete pavements in the automobile parking and drive areas, with Portland cement concrete pavements in the truck court and truck traffic areas.

Based on our conversations with representatives of WGI, the site will utilize on-site stormwater infiltration. The infiltration systems will consist of the following:

Infiltration System	Type of Infiltration System	Depth of Infiltration System (feet)	Location of Infiltration System
"A"	Below-Grade Chamber	4	Northwest
"B"	Basin	6	North
"C"	Below-Grade Chamber	10	Northeast
"D"	Below-Grade Chamber	16	East-Central
"E"	Basin	5	South
"F"	Dry Well	40	North
"G"	Dry Well	40	East-Central

Concurrent Study

SCG concurrently conducted a geotechnical investigation at the subject site, referenced above. As a part of this study, nine (9) borings (identified as Boring Nos. B-1 through B-9) were advanced to depths of 20 to 50± feet below the existing site grades. The borings were logged during drilling by a member of our staff.

All of the borings encountered native younger alluvial soils at the ground surface, extending to depths ranging from 4½ to 8± feet below existing site grades. The younger alluvial soils generally consist of loose to medium dense silty fine sands and clayey fine sands with varying medium to coarse sand and fine gravel content. Native older alluvium was encountered beneath the younger alluvium at all of the boring locations, extending to at least the maximum explored depth of 50± feet below existing site grades. The older alluvial soils consist of medium dense to very dense fine to coarse sands with varying silt, clay, and gravel content, with occasional zone or hard fine sandy clay lenses.

Subsurface Exploration

Scope of Exploration – Shallow Infiltration Borings

The subsurface exploration conducted for the infiltration testing of the shallow borings consisted of one (1) shallow infiltration test boring (identified as Infiltration Test No. I-6), advanced to a depth of 16± feet below the existing site grades. The borings were advanced using a truck-mounted drilling rig, equipped with 8-inch-diameter hollow-stem augers.

Scope of Exploration – Deep Dry Well Infiltration Borings

The subsurface exploration conducted for the infiltration testing for the deep dry well infiltration borings consisted of two (2) borings advanced to a depth of 40± feet below existing site grades. These infiltration tests are identified as DW-1 and DW-2. The borings were advanced using a truck-mounted drilling rig, equipped with 8-inch-diameter hollow-stem augers.

Scope of Exploration – Shallow Double-Ring Infiltrometer

The subsurface exploration for the double-ring infiltrometer testing consisted of four (4) backhoe-excavated trenches, extending to depths ranging from 5 to 10± feet. These infiltration tests are identified as I-3 through I-5 and I-7. The trenches were excavated using a rubber-tire backhoe equipped with a 3-foot-wide bucket.

The borings and trenches were logged during the drilling and excavation by a member of our staff. The approximate locations of the infiltration test borings and trenches are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Upon the completion of the infiltration borings, the bottom of each test boring was covered with 2± inches of clean ¾-inch gravel. A sufficient length of 3-inch-diameter perforated PVC casing was then placed into each test hole so that the PVC casing extended from the bottom of the test hole to the ground surface. Clean ¾-inch gravel was then installed in the annulus surrounding the PVC casing.

Geotechnical Conditions

Native younger alluvial soils were encountered at the ground surface at each boring and trench location extending to depths of 2 to 12± feet. The younger alluvial soils generally consist of loose to medium dense silty fine to medium sands and silty fine to coarse sands with varying amounts of gravel content. Native older alluvium was encountered beneath the younger alluvial soils at all of the boring locations and most of the trench locations, extending to at least the maximum explored depth of 40± feet below the existing site grades. The older alluvial soils consist of medium dense to very dense clayey fine to coarse sands, silty fine to coarse sands, fine to coarse sands, with variable amounts of gravel content. The Boring and Trench Logs, which illustrate the conditions encountered at the boring and trench locations, are included with this report.

Free water was not encountered during the drilling of any of the borings or excavation of any of the trenches. Based on the lack of any water within the borings and trenches and the moisture contents of the recovered soil samples during the geotechnical and infiltration investigations, the static groundwater table is considered to have existed at a depth in excess of 50± feet at the time of the subsurface exploration.

As part of our research, we also reviewed recent groundwater data available for wells within the vicinity of the site. Recent water level data was obtained from the California Department of Water Resources website, http://www.water.ca.gov/waterdatalibrary/. The nearest monitoring well with available records in this database is located 1.2 miles north of the site, within the Oro Grande Wash. Water level readings within this monitoring well indicates a groundwater level of 658± feet below the ground surface in March 2023.

Infiltration Testing - Double-Ring Infiltrometer

The infiltration testing at Infiltration Test Nos. I-3, I-4, I-5, and I-7 was performed in general accordance with ASTM Test Method D-3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer.

Two stainless steel infiltration rings were used for the infiltration testing. The outer infiltration ring is 2 feet in diameter and 20 inches in height. The inner infiltration ring is 1 foot in diameter and 20 inches in height. At the test locations, the outer ring was driven 3± inches into the soil at the base of each trench. The inner ring was centered inside the outer ring and subsequently driven 3± inches into the soil at the base of the trench. The rings were driven into the soil using

a ten-pound sledge hammer. The soil surrounding the wall of the infiltration rings was only slightly disturbed during the driving process.

Infiltration Testing Procedure

Infiltration testing was performed at all of the trench locations. The infiltration testing consisted of filling the inner ring and the annular space (the space between the inner and outer rings) with water, approximately 3 to 4 inches above the soil. To prevent the flow of water from one ring to the other, the water level in both the inner ring and the annular space between the rings was maintained using constant-head float valves. The volume of water that was added to maintain a constant head in the inner ring and the annular space during each time interval was determined and recorded. A cap was placed over the rings to minimize the evaporation of water during the tests.

The schedule for readings was determined based on the observed soil type at the base of each backhoe-excavated trench. Based on the existing soils at the trench locations, the volumetric measurements were made at 15-minute increments. The water volume measurements are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on these spreadsheets.

The infiltration rates for the infiltration tests are calculated in centimeters per hour and then converted to inches per hour. The rates are summarized below:

Infiltration Test No.	Depth (feet)	Soil Description	Measured Infiltration Rate (inches/hour)
I-3	4	Light Brown Silty fine to coarse Sand, trace fine Gravel	4.8
I-4	6	Light Brown Silty fine to coarse Sand, trace fine Gravel, little Clay	1.2
I-5	10	Light Brown Silty fine to coarse Sand, little fine Gravel	2.1
I-7	5	Brown Silty fine to coarse Sand, trace fine Gravel	1.2

Infiltration Testing - Shallow Borings

The infiltration testing for Infiltration Test No. I-6 was performed in general accordance with the guidelines published in Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, which apply to San Bernardino County.

Pre-soaking

In accordance with the county infiltration standards for sandy soils, the shallow infiltration test boring was pre-soaked 2 hours prior to the infiltration testing or until all of the water had percolated through the test holes. The pre-soaking process consisted of filling test borings by inverting a full 5-gallon bottle of clear water supported over each hole so that the water flow into the hole holds constant at a level at least 5 times the hole's radius above the gravel at the bottom of each hole. Pre-soaking was completed after all of the water had percolated through the test holes.

Infiltration Testing

Following the pre-soaking process of the infiltration test borings, SCG performed the infiltration testing. Each test hole was filled with water to a depth of at least 5 times the hole's radius above the gravel at the bottom of the test holes. In accordance with the San Bernardino County guidelines, since "sandy soils" (where 6 inches of water infiltrated into the surrounding soils in less than 25 minutes for two consecutive readings) was encountered at the bottom of the Infiltration Test No. I-6, readings were taken at 30-minute intervals for a total of 6 hours. After each reading, water was added to the borings so that the depth of the water was at least 5 times the radius of the hole. The water level readings are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

The infiltration rates from the tests are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used as the design infiltration rate. The rates are summarized below:

Infiltration Test No.	Depth (feet)	Soil Description	Measured Infiltration Rate (inches/hour)
I-6	16	Brown Clayey fine to coarse Sand, trace fine Gravel	0.1

Infiltration Testing – Dry-Well

The dry-well infiltration testing was performed in accordance with a modified constant-head infiltration test as requested by the project civil engineer, the designer of the proposed dry-well system.

Dry-Wells

Following the pre-soaking process, the constant-head infiltration test method was utilized to test the rates of deeper soils. This method consisted of filling the borings to a maximum water level of 12± feet below the ground surface, based on the soil conditions encountered. Once the hole was filled, the inflow of water was controlled via a ball valve in order to maintain the water level constant below ground surface. It was necessary to constantly monitor this depth due to varying inflows from the water source and the change in infiltration rate with time. Readings were taken every ten minutes using a water level meter. The ball valve was used to make adjustments by increasing or decreasing the inflow of water when slight changes in depth occurred. The water level readings are presented on the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

The dry-well infiltration rate from the deep infiltration test is tabulated in gallons per square foot per day:

Infiltration Test No.	Depth (feet)	Measured Infiltration Rate (inches per hour)	Measured Percolation Rate (gal/ft^2/day)
DW-1	40	0.3	4.0
DW-2	40	0.3	4.0

Laboratory Testing

Moisture Content

The moisture contents for the recovered soil samples within the borings and trenches were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Boring and Trench Logs.

Grain Size Analysis

The grain size distribution of selected soils collected from the base of each infiltration test boring and trench and from each sample collected greater than 10± feet within the dry well borings have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented on Plates C-1 through C-17 of this report.

Design Recommendations

A total of seven (7) infiltration tests were performed at the subject site. As noted above, the infiltration rates at these locations vary from 0.1 to 4.8 inches per hour. The major factor affecting the difference in infiltration rates at the infiltration test locations is the presence of silt and clay in the soils at the tested depths.

Based on the results of the infiltration testing, we recommend the following infiltration rates for the proposed infiltration systems:

Infiltration System	Infiltration System Depth (feet)	Infiltration System Location	Design Infiltration Rate (inches/hour)
"A"	4	Northwest	4.8
"B"	6	North	1.2
"C"	10	Northeast	2.1
"D"	16	East-Central	0.1
"E"	5	South	1.2
"F"	40	North	0.3
"G"	40	East-Central	0.3

The design of the storm water infiltration systems should be performed by the project civil engineer, in accordance with the County of San Bernardino guidelines and/or the City of Hesperia guidelines. It is recommended that the systems be constructed so as to facilitate removal of silt and clay, or other deleterious materials from any water that may enter the systems. The presence of such materials would decrease the effective infiltration rates. **It is recommended that the project civil engineer apply an appropriate factor of safety. The infiltration rates recommended above are based on the assumption that only clean water will be introduced to the subsurface profile. Any fines, debris, or organic materials could significantly impact the infiltration rate.** It should be noted that the recommended infiltration rates are based on infiltration testing at seven (7) discrete locations and that the overall infiltration rates of the proposed infiltration systems could vary considerably.

Infiltration Rate Considerations

The infiltration rates presented herein were determined in accordance with the San Bernardino County guidelines and is considered valid only for the time and place of the actual test. Varying subsurface conditions will exist in other areas of the site, which could alter the recommended infiltration rate presented above. The infiltration rate will decline over time between maintenance cycles as silt or clay particles accumulate on the BMP surface. The infiltration rate is highly dependent upon a number of factors, including density, silt and clay content, grainsize distribution throughout the range of particle sizes, and particle shape. Small changes in these factors can cause large changes in the infiltration rate.

Infiltration rates are based on unsaturated flow. As water is introduced into soils by infiltration, the soils become saturated and the wetting front advances from the unsaturated zone to the saturated zone. Once the soils become saturated, infiltration rates become zero, and water can only move through soils by hydraulic conductivity at a rate determined by pressure head and soil permeability. Changes in soil moisture content will affect the infiltration rate. Infiltration rates should be expected to decrease until the soils become saturated. Soil permeability values will then govern groundwater movement. Permeability values may be on the order of 10 to 20 times less than infiltration rates. The system designer should incorporate adequate factors of safety and allow for overflow design into appropriate traditional storm drain systems, which would transport storm water off-site.

Construction Considerations

The infiltration rates presented in this report are specific to the tested locations and tested depths. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Compaction of the soils at the bottom of the infiltration system can significantly reduce the infiltration ability of the basins. Therefore, the subgrade soils within proposed infiltration system areas should not be over-excavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

We recommend that a representative from the geotechnical engineer be on-site during the construction of the proposed infiltration system to identify the soil classification at the base of the system. It should be confirmed that the soils at the base of the proposed infiltration systems correspond with those presented in this report to ensure that the performance of the systems will be consistent with the rate reported herein.

We recommend that scrapers and other rubber-tired heavy equipment not be operated on the basin bottom, or at levels lower than 2 feet above the bottom of the system, particularly within basins. As such, the bottom 24 inches of the infiltration system should be excavated with non-rubber-tired equipment, such as excavators.

Chamber Maintenance

The proposed project may include infiltration chambers. Water flowing into these chambers will carry some level of sediment. This layer has the potential to significantly reduce the infiltration rate of the chamber subgrade soils. Therefore, a formal chamber maintenance program should be established to ensure that these silt and clay deposits are removed from the chamber on a regular basis.

Basin Maintenance

The proposed project will include infiltration basins. Water flowing into these basins will carry some level of sediment. Wind-blown sediments and erosion of the basin side walls will also contribute to sediment deposition at the bottom of the basin. This layer has the potential to significantly reduce the infiltration rate of the basin subgrade soils. Therefore, a formal basin maintenance program should be established to ensure that these silt and clay deposits are removed from the basin on a regular basis. Appropriate vegetation on the basin sidewalls and bottom may reduce erosion and sediment deposition.

Basin maintenance should also include measures to prevent animal burrows, and to repair any burrows or damage caused by such. Animal burrows in the basin sidewalls can significantly increase the risk of erosion and piping failures.

Location of Infiltration Systems

The use of on-site storm water infiltration systems carries a risk of creating adverse geotechnical conditions. Increasing the moisture content of the soil can cause the soil to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Overlying structures and pavements in the infiltration area could potentially be damaged due to saturation of the subgrade soils. **The proposed infiltration system for this site should be located at least 25 feet away from any structures, including retaining walls.** Even with this provision of locating the infiltration system at least 25 feet from the building(s), it is possible that infiltrating water into the subsurface soils could have an adverse effect on the proposed or existing structures. It should also be noted that utility trenches which happen to collect storm water can also serve as conduits to transmit storm water toward the structure, depending on the slope of the utility trench. Therefore, consideration should also be given to the proposed locations of underground utilities which may pass near the proposed infiltration system.

The infiltration system designer should also give special consideration to the effect that the proposed infiltration system may have on nearby subterranean structures, open excavations, or descending slopes. In particular, infiltration systems should not be located near the crest of descending slopes, particularly where the slopes are comprised of granular soils. Such systems will require specialized design and analysis to evaluate the potential for slope instability, piping

failures and other phenomena that typically apply to earthen dam design. This type of analysis is beyond the scope of this infiltration test report, but these factors should be considered by the infiltration system designer when locating the infiltration systems.

General Comments

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the proposed storm water infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rate contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the proposed storm water infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

Closure

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.

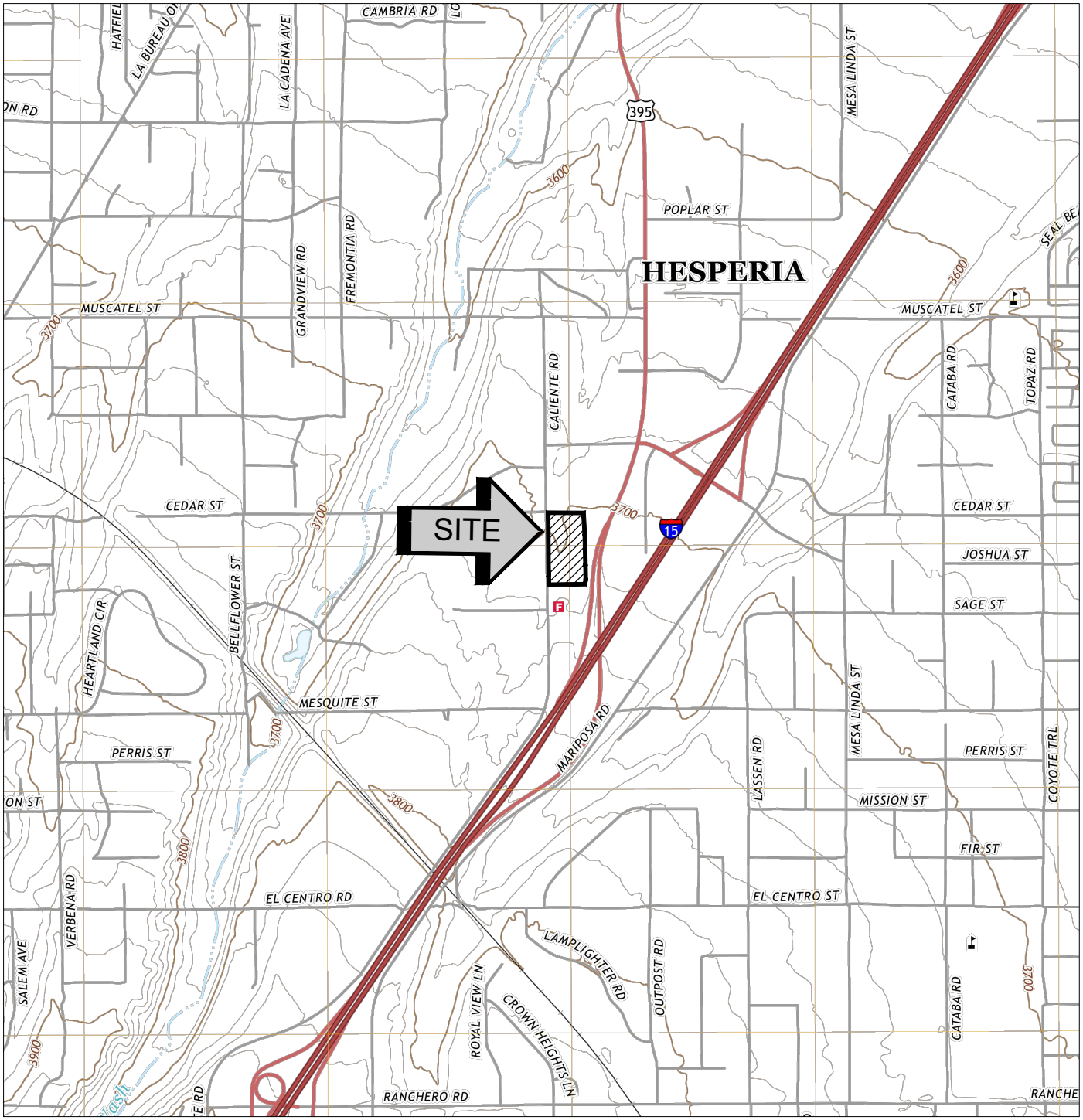
Michelle Krizek
Staff Geologist

Daryl Kas, CEG 2467
Senior Geologist

Robert G. Trazo, GE 2655
Principal Engineer

Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map
Plate 2 - Infiltration Test Location Plan
Boring and Trench Log Legend and Logs (11 pages)
Infiltration Test Results Spreadsheets (9 pages)
Grain Size Distribution Graphs (17 pages)



SOURCE: USGS TOPOGRAPHIC MAP OF THE BALDY MESA QUADRANGLE, SAN BERNARDINO COUNTY, CALIFORNIA, 2021.

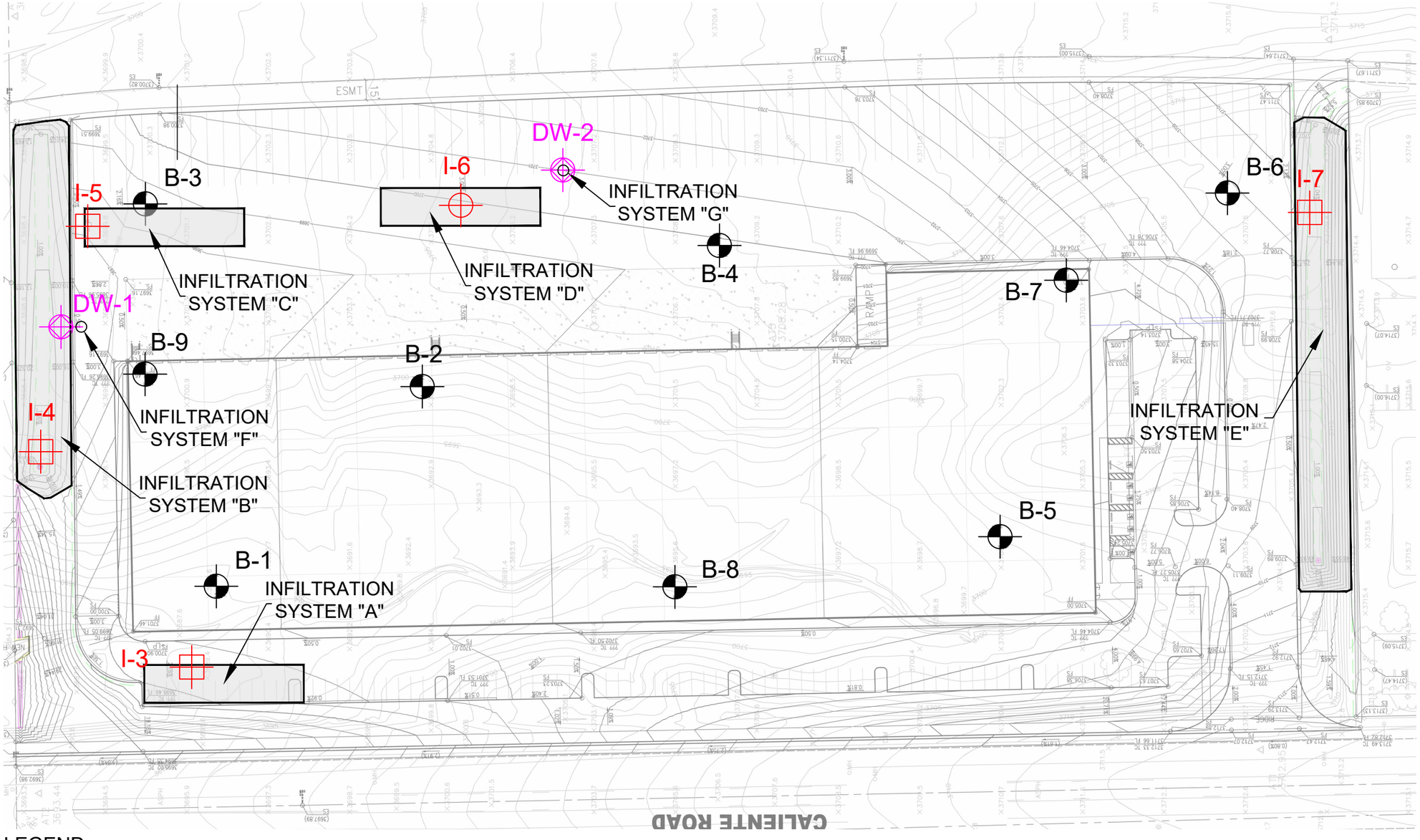
SITE LOCATION MAP

HESPERIA COMMERCE CENTER - LOT 5

HESPERIA, CALIFORNIA

SCALE: 1" = 2000'	
DRAWN: MK CHKD: PM	
SCG PROJECT 23G166-4	
PLATE 1	

SOUTHERN CALIFORNIA GEOTECHNICAL



GEOTECHNICAL LEGEND

- APPROXIMATE BORING (SHALLOW) INFILTRATION TEST LOCATION
- APPROXIMATE DOUBLE-RING (SHALLOW) INFILTRATION TEST LOCATION
- APPROXIMATE DRY WELL (DEEP) INFILTRATION TEST LOCATION
- APPROXIMATE BORING LOCATION (SCG PROJECT NO. 23G166-3)

NORTH
SoCalGeo

NOTE: CONCEPTUAL GRADING PLAN PROVIDED BY WESTLAND GROUP, INC.

INFILTRATION TEST LOCATION PLAN

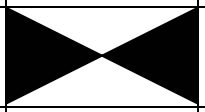
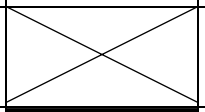
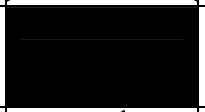
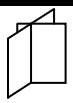
HESPERIA COMMERCE CENTER - LOT 5

HESPERIA, CALIFORNIA

SCALE: 1" = 80'	
DRAWN: MK CHKD: RGT	
SCG PROJECT 23G166-4	
PLATE 2	

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL

BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

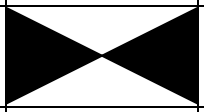
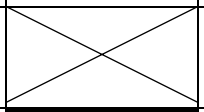
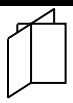
LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

TRENCH LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

COLUMN DESCRIPTIONS

DEPTH: Distance in feet below the ground surface.

SAMPLE: Sample Type as depicted above.

BLOW COUNT: Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

POCKET PEN.: Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

GRAPHIC LOG: Graphic Soil Symbol as depicted on the following page.

DRY DENSITY: Dry density of an undisturbed or relatively undisturbed sample in lbs/ft^3.

MOISTURE CONTENT: Moisture content of a soil sample, expressed as a percentage of the dry weight.

LIQUID LIMIT: The moisture content above which a soil behaves as a liquid.

PLASTIC LIMIT: The moisture content above which a soil behaves as a plastic.

PASSING #200 SIEVE: The percentage of the sample finer than the #200 standard sieve.

UNCONFINED SHEAR: The shear strength of a cohesive soil sample, as measured in the unconfined state.

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-3

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

EXCAVATION DATE: 10/12/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3689.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					YOUNGER ALLUVIUM: Light Brown Silty fine to coarse Sand, trace fine Gravel, medium dense-dry							
							3			23		
					Trench Terminated at 4'							

TBL 23G166-4 INFIL TRENCHES.GPJ SOCALGEO.GDT 11/13/23

TEST TRENCH LOG

PLATE B-1

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-4

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

EXCAVATION DATE: 10/12/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3697.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					YOUNGER ALLUVIUM: Light Brown Silty fine to medium Sand, trace Clay, trace fine Gravel, trace fine root fibers, medium dense-dry							
					OLDER ALLUVIUM: Light Brown Silty fine to coarse Sand, little Clay, trace fine Gravel, well cemented, dense-damp							
5							4			21		
					Trench Terminated at 6'							

TBL 23G166-4 INFIL TRENCHES.GPJ SOCALGEO.GDT 11/13/23

TEST TRENCH LOG

PLATE B-2

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-5

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

EXCAVATION DATE: 10/12/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: 3698.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					YOUNGER ALLUVIUM: Light Brown Silty fine to medium Sand, trace fine to coarse Gravel, trace fine root fibers, medium dense-dry							
					OLDER ALLUVIUM: Light Brown Silty fine to coarse Sand, little fine Gravel, well cemented, very dense-damp							
5												
							4			13		
10					Trench Terminated at 10'							

TBL 23G166-4 INFIL TRENCHES.GPJ SOCALGEO.GDT 11/13/23

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. I-6

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	SURFACE ELEVATION: 3705.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					YOUNGER ALLUVIUM: Brown Silty fine to medium Sand, trace to little coarse Sand, trace fine Gravel, trace fine root fibers, medium dense-dry to damp							
5		16					1					
10		24					3					
					OLDER ALLUVIUM: Brown Clayey fine to coarse Sand, trace fine Gravel, medium dense-dry to damp							
15		16					3			13		
					Boring Terminated at 16'							

TBL 23G166-4.GPJ SOCALGEO.GDT 11/14/23

TEST BORING LOG

PLATE B-4

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

TRENCH NO. I-7

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

EXCAVATION DATE: 10/12/23
EXCAVATION METHOD: Backhoe
LOGGED BY: Caleb Brackett

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3708.5 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					YOUNGER ALLUVIUM: Brown Silty fine to medium Sand, trace fine Gravel, trace fine root fibers, loose-dry							
					OLDER ALLUVIUM: Brown Silty fine to coarse Sand, trace fine Gravel, moderately cemented, medium dense-damp							
							6			18		
5					Trench Terminated at 5 feet							

TBL 23G166-4 INFIL TRENCHES.GPJ SOCALGEO.GDT 11/13/23

TEST TRENCH LOG

PLATE B-5

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. DW-1

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3699 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
5		13			YOUNGER ALLUVIUM: Brown Silty fine to coarse Sand, trace to little fine Gravel, medium dense-damp		4					
10		44			OLDER ALLUVIUM: Brown Silty fine to coarse Sand, trace Clay, trace fine Gravel, moderately cemented, dense-damp to moist		6					
15		35			@ 13½ feet, slightly cemented		14			14		
20		46			Brown fine to coarse Sand, trace to little Silt, little fine Gravel, medium dense to dense-damp		6			9		
25		29			Brown Silty fine to coarse Sand, medium dense to dense-damp to moist		6			14		
		48			@ 28½ feet, trace fine Gravel		12			14		

TBL 23G166-4.GPJ SOCALGEO.GDT 11/14/23

TEST BORING LOG

PLATE B-6a

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. DW-1

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION (Continued)	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					Brown Silty fine to coarse Sand, trace Clay, medium dense to dense-damp to very moist							
					Brown Silty fine to medium Sand, little coarse Sand, medium dense-damp							
35		29					6			17		
					Brown Silty fine to coarse Sand, trace fine Gravel, medium dense-damp							
		29					7			13		
40					Boring Terminated at 40'							

TBL 23G166-4.GPJ SOCALGEO.GDT 11/14/23

TEST BORING LOG

PLATE B-6b

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. DW-2

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION SURFACE ELEVATION: 3707 feet MSL	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
5		6			YOUNGER ALLUVIUM: Brown Silty fine to medium Sand, trace to little coarse Sand, trace fine Gravel, loose to medium dense-dry to damp		3					
10		16					6					
15		25			OLDER ALLUVIUM: Brown Silty fine to coarse Sand, trace Clay, trace fine Gravel, medium dense-damp		9			29		
20		20			Brown Silty fine to coarse Sand, trace fine Gravel, medium dense-damp		5			13		
25		29					9			15		
		29					8			16		

TBL 23G166-4.GPJ SOCALGEO.GDT 11/14/23

TEST BORING LOG

PLATE B-7a

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

BORING NO. DW-2

JOB NO.: 23G166-4
PROJECT: Hesperia Commerce Center - Lot 5
LOCATION: Hesperia, California

DRILLING DATE: 10/10/23
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Joey Hernandez

WATER DEPTH: Dry
CAVE DEPTH: Not Applicable
READING TAKEN: At Completion

FIELD RESULTS						LABORATORY RESULTS						
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG	DESCRIPTION (Continued)	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	COMMENTS
					Brown Silty fine to coarse Sand, trace fine Gravel, medium dense-damp							
					Brown Silty fine to medium Sand, litle coarse Sand, trace fine Gravel, trace Clay, dense-damp							
35		47					8			17		
					Brown Silty fine to coarse Sand, dense-damp							
		49					7			14		
40					Boring Terminated at 40'							

TBL 23G166-4.GPJ SOCALGEO.GDT 11/14/23

TEST BORING LOG

PLATE B-7b

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial Induistrial Building
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	CB

Infiltration Test No: I-3

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	10:56 AM	15	0	2750	0	11000	15.08	20.10	5.94	7.91
	Final	11:11 AM	**15**	2750		11000					
2	Initial	11:11 AM	15	0	2700	0	9300	14.80	16.99	5.83	6.69
	Final	11:26 AM	**30**	2700		9300					
3	Initial	11:26 AM	15	0	2250	0	8000	12.33	14.62	4.86	5.76
	Final	11:41 AM	**45**	2250		8000					
4	Initial	11:41 AM	15	0	2200	0	7400	12.06	13.52	4.75	5.32
	Final	11:56 AM	**60**	2200		7400					
5	Initial	11:56 AM	15	0	2200	0	7400	12.06	13.52	4.75	5.32
	Final	12:11 PM	**75**	2200		7400					
6	Initial	12:11 PM	15	0	2200	0	7400	12.06	13.52	4.75	5.32
	Final	12:26 PM	**90**	2200		7400					
7	Initial	12:26 PM	15	0	2200	0	7400	12.06	13.52	4.75	5.32
	Final	12:41 PM	**105**	2200		7400					
8	Initial	12:41 PM	15	0	2200	0	7400	12.06	13.52	4.75	5.32
	Final	12:56 PM	**120**	2200		7400					
9	Initial	12:56 PM	15	0	2200	0	7400	12.06	13.52	4.75	5.32
	Final	1:11 PM	**135**	2200		7400					

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial Induistrial Building
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	CB

Infiltration Test No: I-4

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	9:37 AM	15	0	650	0	3600	3.56	6.58	1.40	2.59
	Final	9:52 AM	**15**	650		3600					
2	Initial	9:52 AM	15	0	600	0	3600	3.29	6.58	1.30	2.59
	Final	10:07 AM	**30**	600		3600					
3	Initial	10:07 AM	15	0	550	0	3500	3.02	6.40	1.19	2.52
	Final	10:22 AM	**45**	550		3500					
4	Initial	10:22 AM	15	0	550	0	3400	3.02	6.21	1.19	2.45
	Final	10:37 AM	**60**	550		3400					
5	Initial	10:52 AM	15	0	550	0	3400	3.02	6.21	1.19	2.45
	Final	11:07 AM	**90**	550		3400					
6	Initial	11:07 AM	15	0	550	0	3400	3.02	6.21	1.19	2.45
	Final	11:22 AM	**105**	550		3400					
7	Initial	11:22 AM	15	0	550	0	3400	3.02	6.21	1.19	2.45
	Final	11:37 AM	**120**	550		3400					
8	Initial	11:37 AM	15	0	550	0	3400	3.02	6.21	1.19	2.45
	Final	11:52 AM	**135**	550		3400					
9	Initial	11:52 AM	15	0	550	0	1900	3.02	3.47	1.19	1.37
	Final	12:07 PM	**150**	550		1900					

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial Induistrial Building
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	CB

Infiltration Test No: I-5

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Flow Readings: Ring Flow (cm^3)	Flow Readings: Annular Ring (ml)	Flow Readings: Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Infiltration Rates: Annular Space* (cm/hr)	Infiltration Rates: Inner Ring* (in/hr)	Infiltration Rates: Annular Space* (in/hr)
1	Initial	1:01 PM	15	0	1150	0	3800	6.30	6.94	2.48	2.73
	Final	1:16 PM	**15**	1150		3800					
2	Initial	1:16 PM	15	0	1100	0	3800	6.03	6.94	2.37	2.73
	Final	1:31 PM	**30**	1100		3800					
3	Initial	1:31 PM	15	0	1050	0	3700	5.76	6.76	2.27	2.66
	Final	1:46 PM	**45**	1050		3700					
4	Initial	1:46 PM	15	0	1050	0	3700	5.76	6.76	2.27	2.66
	Final	2:01 PM	**60**	1050		3700					
5	Initial	2:01 PM	15	0	1000	0	3600	5.48	6.58	2.16	2.59
	Final	2:16 PM	**75**	1000		3600					
6	Initial	2:16 PM	15	0	1000	0	3600	5.48	6.58	2.16	2.59
	Final	2:31 PM	**90**	1000		3600					
7	Initial	2:31 PM	15	0	950	0	3500	5.21	6.40	2.05	2.52
	Final	2:46 PM	**105**	950		3500					
8	Initial	2:46 PM	15	0	950	0	3500	5.21	6.40	2.05	2.52
	Final	3:01 PM	**120**	950		3500					
9	Initial	3:01 PM	15	0	950	0	3500	5.21	6.40	2.05	2.52
	Final	3:16 PM	**135**	950		3500					

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial Induistrial Building
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	CB
Test Hole Radius	4 (in)
Test Depth	16.00 (ft)
Infiltration Test Hole	I-6

Soil Criteria Test

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	8:15 AM	25.00	11.10	3.72	NO	NON-SANDY SOILS
	Final	8:40 AM		11.41			
2	Initial	8:40 AM	25.00	11.10	1.56	NO	NON-SANDY SOILS
	Final	9:05 AM		11.23			

Test Data

Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	9:05 AM	30.00	11.10	0.25	4.78	0.20
	Final	9:35 AM		11.35			
2	Initial	9:35 AM	30.00	11.10	0.24	4.78	0.19
	Final	10:05 AM		11.34			
3	Initial	10:05 AM	30.00	11.10	0.24	4.78	0.19
	Final	10:35 AM		11.34			
4	Initial	10:35 AM	30.00	11.10	0.23	4.79	0.19
	Final	11:05 AM		11.33			
5	Initial	11:06 AM	30.00	11.10	0.21	4.80	0.17
	Final	11:36 AM		11.31			
6	Initial	11:36 AM	30.00	11.10	0.22	4.79	0.18
	Final	12:06 PM		11.32			
7	Initial	12:06 PM	30.00	11.10	0.21	4.80	0.17
	Final	12:36 PM		11.31			
8	Initial	12:37 PM	30.00	11.10	0.19	4.81	0.15
	Final	1:07 PM		11.29			
9	Initial	1:07 PM	30.00	11.10	0.17	4.82	0.14
	Final	1:37 PM		11.27			
10	Initial	1:38 PM	30.00	11.10	0.15	4.83	0.12
	Final	2:08 PM		11.25			
11	Initial	2:08 PM	30.00	11.10	0.15	4.83	0.12
	Final	2:38 PM		11.25			
12	Initial	2:39 PM	30.00	11.10	0.15	4.83	0.12
	Final	3:09 PM		11.25			

Per County Standards, Infiltration Rate calculated as follows:

Where: Q = Infiltration Rate (in inches per hour)

ΔH = Change in Height (Water Level) over the time interval

r = Test Hole (Borehole) Radius

Δt = Time Interval

H_{avg} = Average Head Height over the time interval

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

INFILTRATION CALCULATIONS

Project Name	Proposed Commercial Induistrial Building
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	CB

Infiltration Test No: I-7

Constants	Diameter (ft)	Area (ft^2)	Area (cm^2)
Inner	1	0.79	730
Anlr. Spac	2	2.36	2189

*Note: The infiltration rate was calculated based on current time interval

Test Interval		Time (hr)	Interval **Elapsed** (min)	Flow Readings: Inner Ring (ml)	Ring Flow (cm^3)	Annular Ring (ml)	Space Flow (cm^3)	Infiltration Rates: Inner Ring* (cm/hr)	Annular Space* (cm/hr)	Inner Ring* (in/hr)	Annular Space* (in/hr)
1	Initial	12:36 PM	15	0	1000	0	4000	5.48	7.31	2.16	2.88
	Final	12:51 PM	**15**	1000		4000					
2	Initial	12:51 PM	15	0	800	0	4100	4.39	7.49	1.73	2.95
	Final	1:06 PM	**30**	800		4100					
3	Initial	1:06 PM	15	0	700	0	4000	3.84	7.31	1.51	2.88
	Final	1:21 PM	**45**	700		4000					
4	Initial	1:21 PM	15	0	650	0	3800	3.56	6.94	1.40	2.73
	Final	1:36 PM	**60**	650		3800					
5	Initial	1:36 PM	15	0	600	0	3700	3.29	6.76	1.30	2.66
	Final	1:51 PM	**75**	600		3700					
6	Initial	1:51 PM	15	0	550	0	3650	3.02	6.67	1.19	2.63
	Final	2:06 PM	**90**	550		3650					
7	Initial	2:06 PM	15	0	600	0	3600	3.29	6.58	1.30	2.59
	Final	2:21 PM	**105**	600		3600					
8	Initial	2:21 PM	15	0	550	0	3500	3.02	6.40	1.19	2.52
	Final	2:36 PM	**120**	550		3500					
9	Initial	2:36 PM	15	0	550	0	3500	3.02	6.40	1.19	2.52
	Final	2:51 PM	**135**	550		3500					

INFILTRATION CALCULATIONS

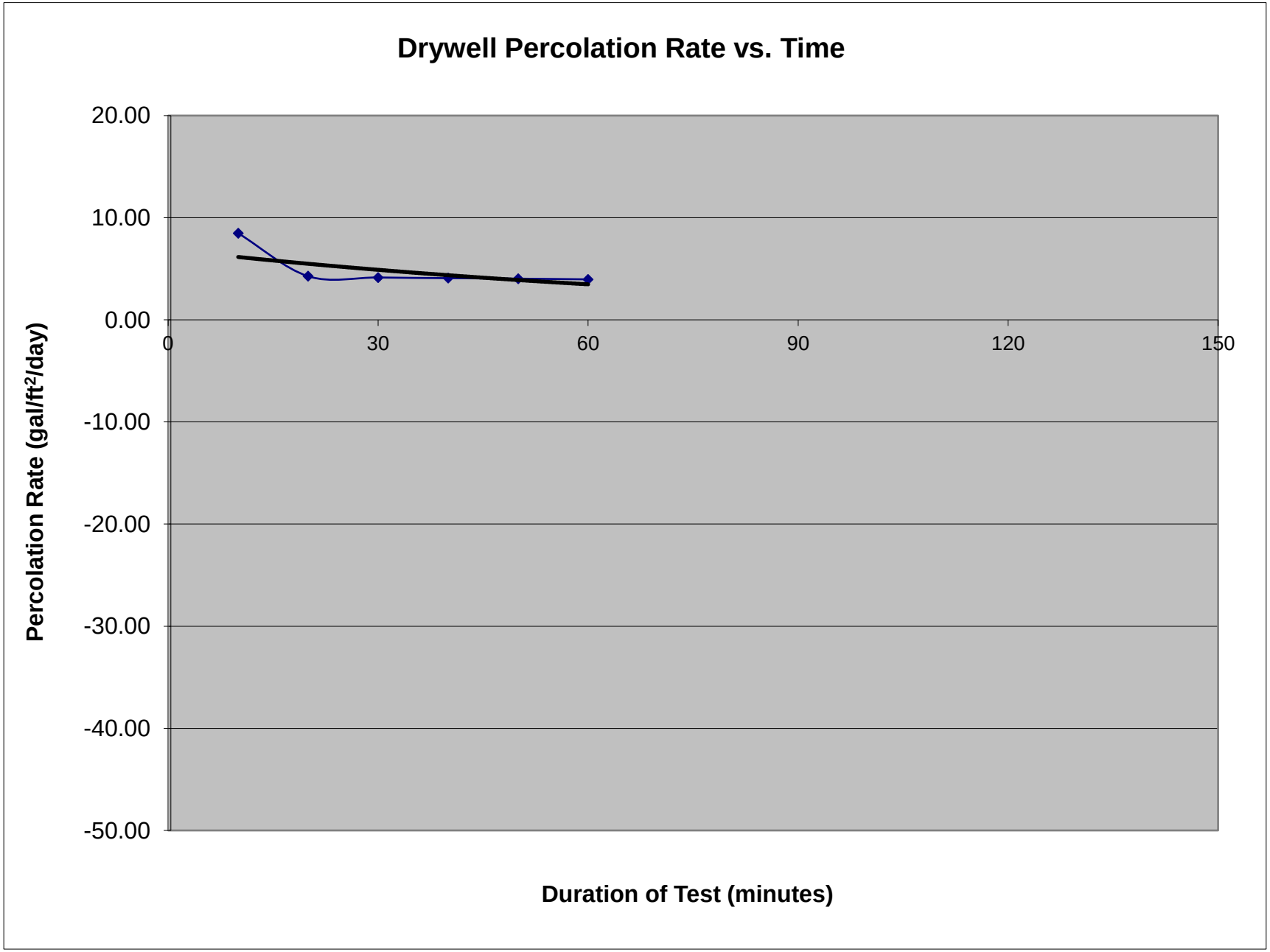
Project Name	Hesperia Commerce Center I
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	Caleb Brackett

Borehole Diameter	8
Borehole Depth	40
Water Depth from Ground Surface	12

Percolation Boring No. DW-1

Interval Number		Time	Time Interval (hrs)	Avergae Wetted Depth for Interval (ft)	Inflow Meter Readings (gallons)	Volume of Outflow (gallons)	Percolation Rate Q (gallons/minute)	Percolation Rate Q (gal/ft^2/day)
1	Initial	11:01 AM	0.1667	16.21	8713.0	2.0	0.20	8.48
	Final	11:11 AM			8715.0			
2	Initial	11:12 AM	0.1667	16.10	8715.0	1.0	0.10	4.27
	Final	11:22 AM			8716.0			
3	Initial	11:23 AM	0.1667	16.58	8716.0	1.0	0.10	4.15
	Final	11:33 AM			8717.0			
4	Initial	11:34 AM	0.1667	16.84	8717.0	1.0	0.10	4.08
	Final	11:44 AM			8718.0			
5	Initial	11:45 AM	0.1667	17.05	8718.0	1.0	0.10	4.03
	Final	11:55 AM			8719.0			
6	Initial	11:56 AM	0.1667	17.35	8719.0	1.0	0.10	3.96
	Final	12:06 PM			8720.0			

Rate	6.0	gal/hr
Rate	0.80	ft3/hr
Surface Area	34.65	ft2
Rate/Surface Area	0.02	ft/hr
Rate	0.28	in/hr


Drywell Percolation Rate vs. Time
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
-50.00
0
30
60
90
120
150
Percolation Rate (gal/ft²/day)
Duration of Test (minutes)

INFILTRATION CALCULATIONS

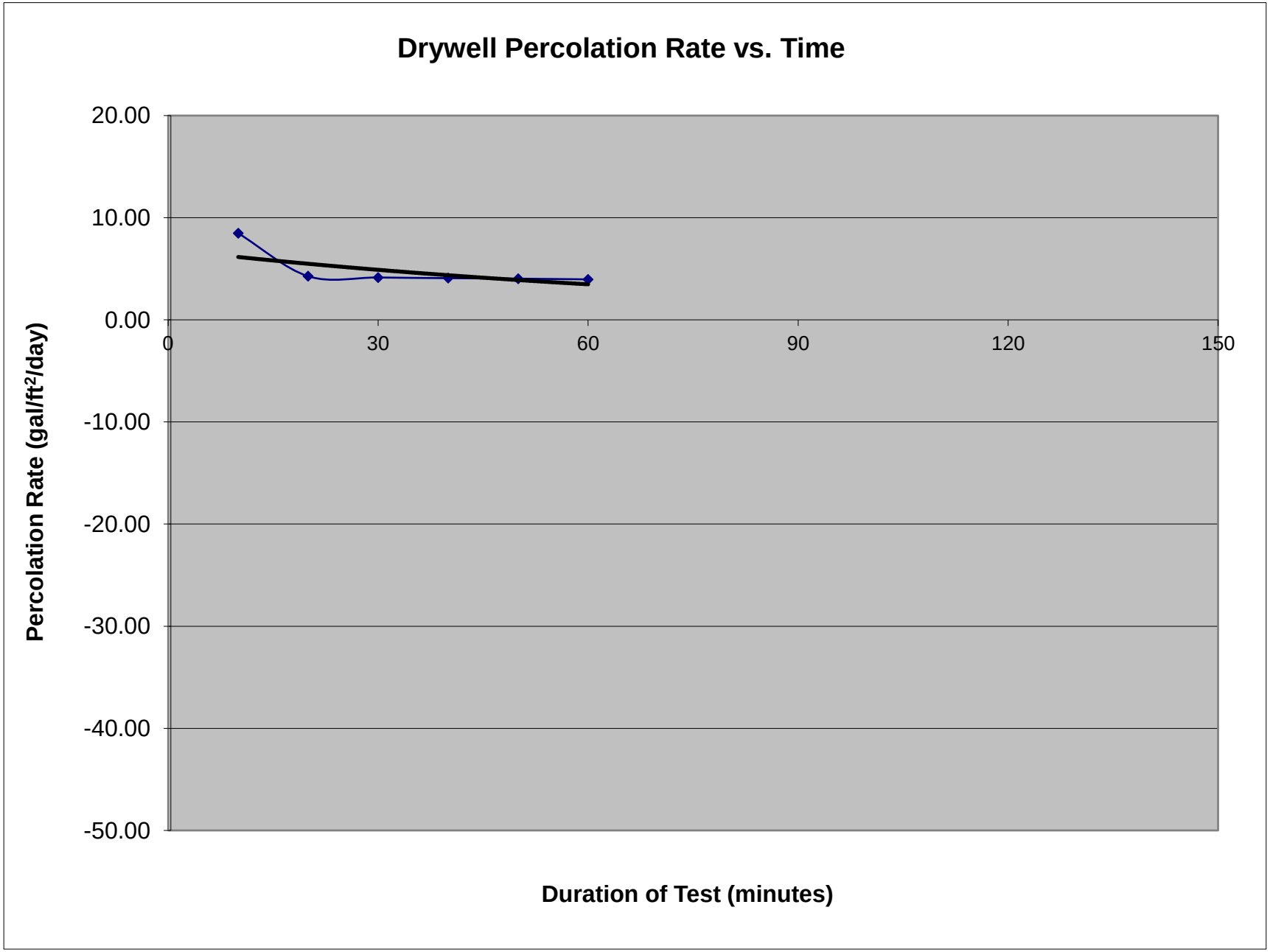
Project Name	Hesperia Commerce Center I
Project Location	Hesperia, California
Project Number	23G166-4
Engineer	Caleb Brackett

Borehole Diameter	8
Borehole Depth	40
Water Depth from Ground Surface	12

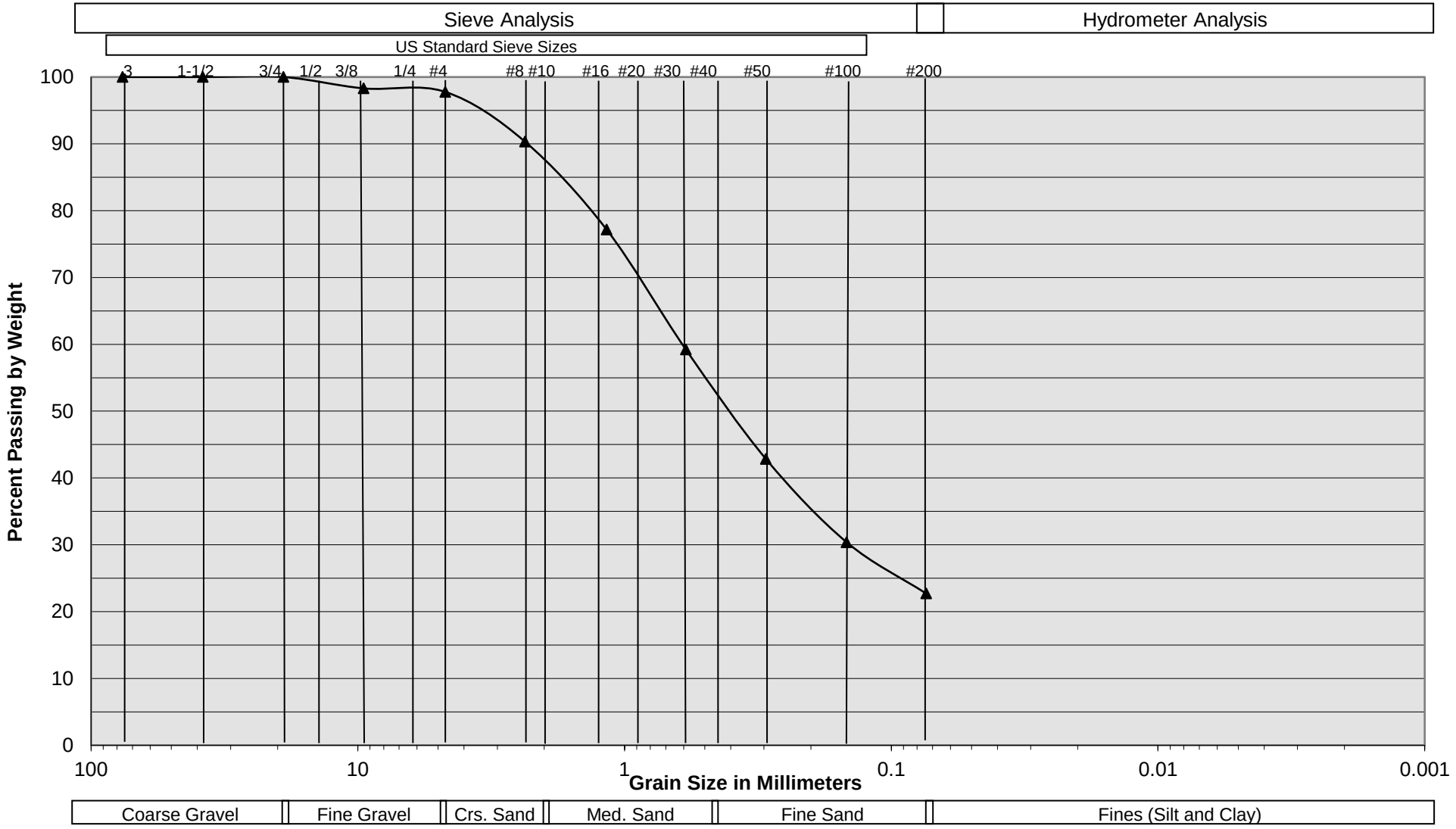
Percolation Boring No.	DW-2

Interval Number		Time	Time Interval (hrs)	Avergae Wetted Depth for Interval (ft)	Inflow Meter Readings (gallons)	Volume of Outflow (gallons)	Percolation Rate Q (gallons/minute)	Percolation Rate Q (gal/ft^2/day)
1	Initial	11:01 AM	0.1667	16.21	8743.0	2.0	0.20	8.48
	Final	11:11 AM			8745.0			
2	Initial	11:12 AM	0.1667	16.10	8745.0	1.0	0.10	4.27
	Final	11:22 AM			8746.0			
3	Initial	11:23 AM	0.1667	16.58	8746.0	1.0	0.10	4.15
	Final	11:33 AM			8747.0			
4	Initial	11:34 AM	0.1667	16.84	8747.0	1.0	0.10	4.08
	Final	11:44 AM			8748.0			
5	Initial	11:45 AM	0.1667	17.05	8748.0	1.0	0.10	4.03
	Final	11:55 AM			8749.0			
6	Initial	11:56 AM	0.1667	17.35	8749.0	1.0	0.10	3.96
	Final	12:06 PM			8750.0			

Rate	6.0	gal/hr
Rate	0.80	ft3/hr
Surface Area	34.65	ft2
Rate/Surface Area	0.02	ft/hr
Rate	0.28	in/hr


Drywell Percolation Rate vs. Time
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
-50.00
0
30
60
90
120
150
Percolation Rate (gal/ft²/day)
Duration of Test (minutes)

Grain Size Distribution



Sample Description	I-3 @ 4'
Soil Classification	Light Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 1

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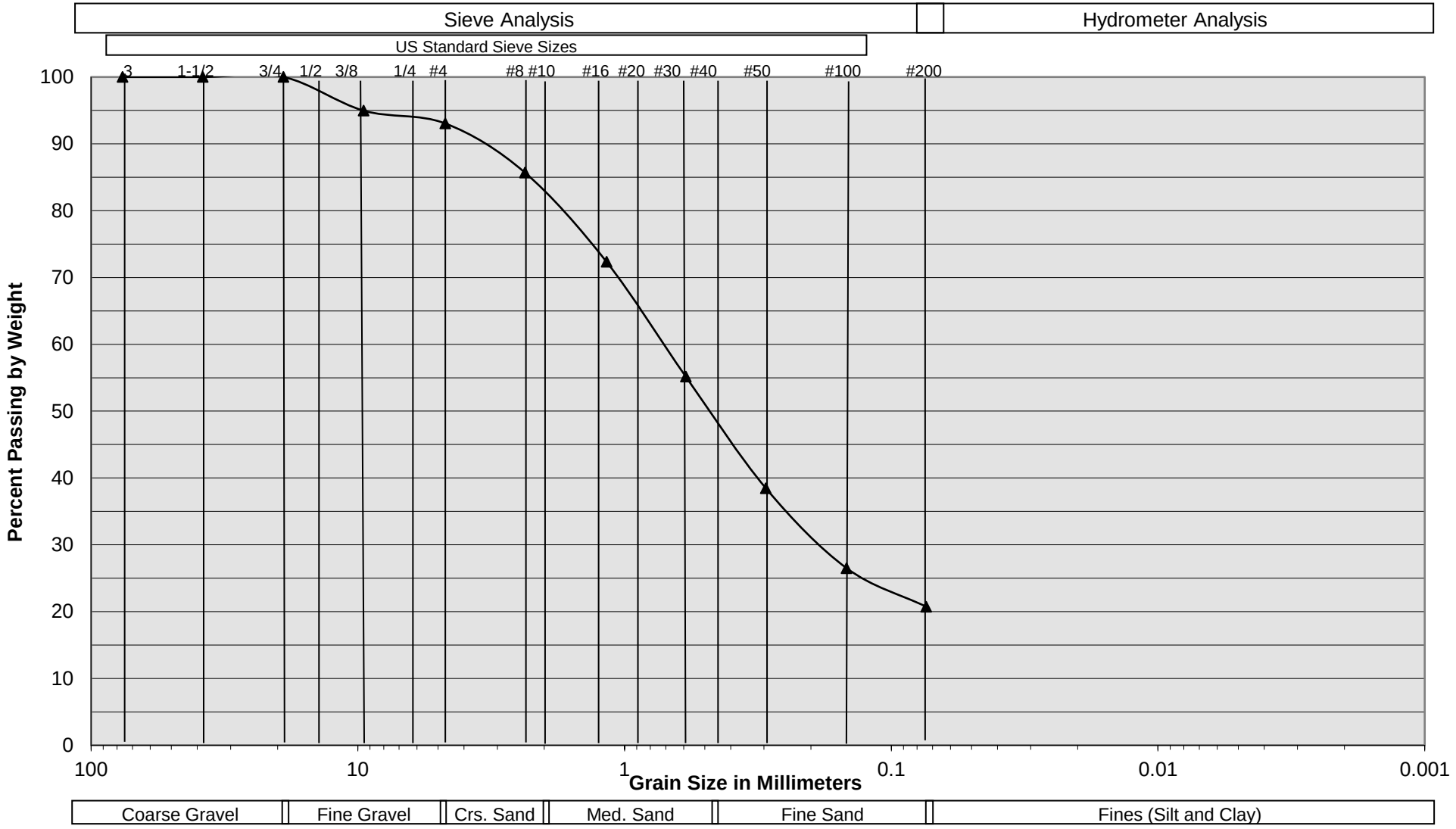
Grain Size Distribution



Sample Description	I-4 @ 6'
Soil Classification	Light Brown Silty fine to coarse Sand, trace fine Gravel, little Clay

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 2

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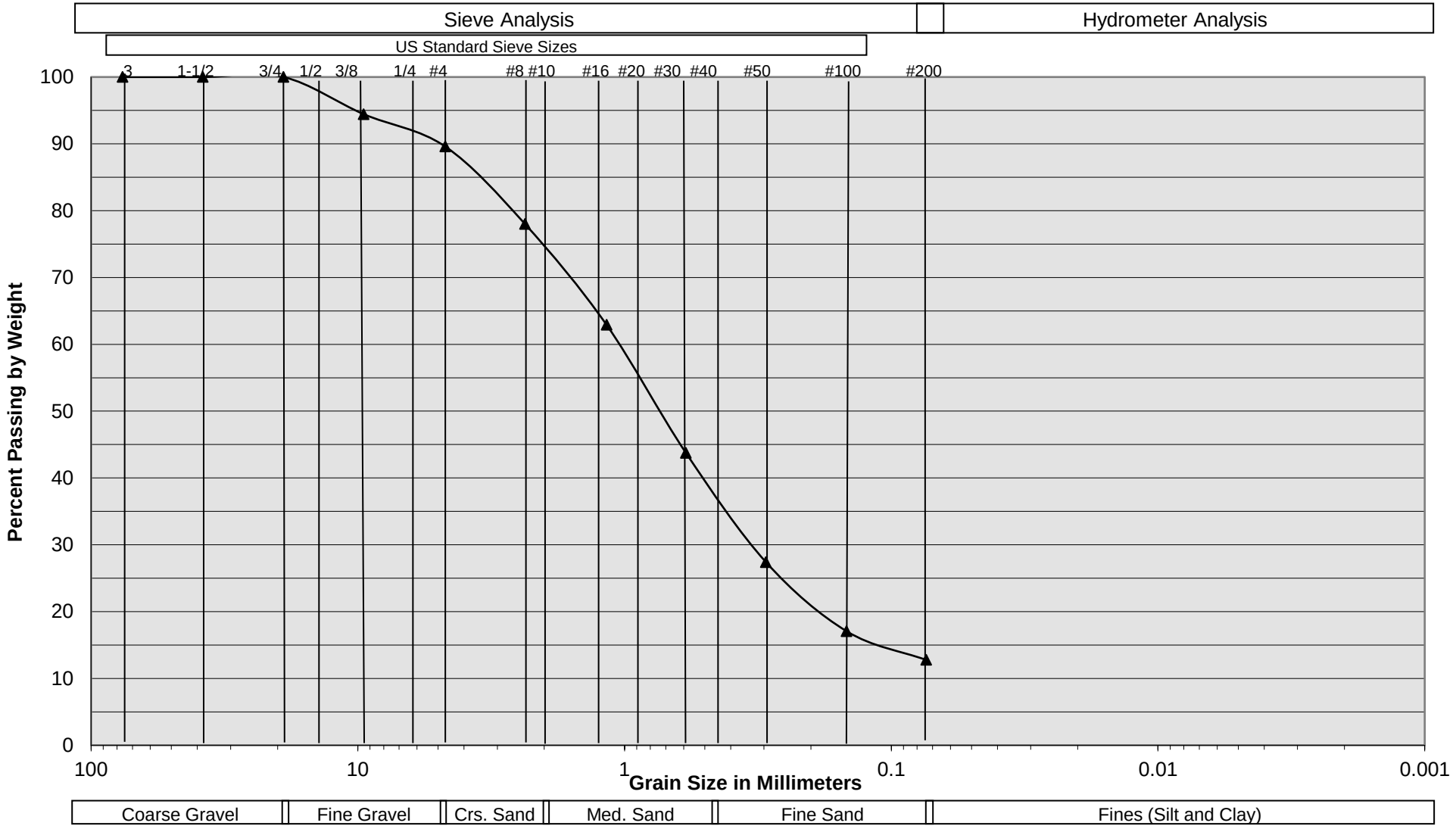
Grain Size Distribution



Sample Description	I-5 @ 10'
Soil Classification	Light Brown Silty fine to coarse Sand, little fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 3

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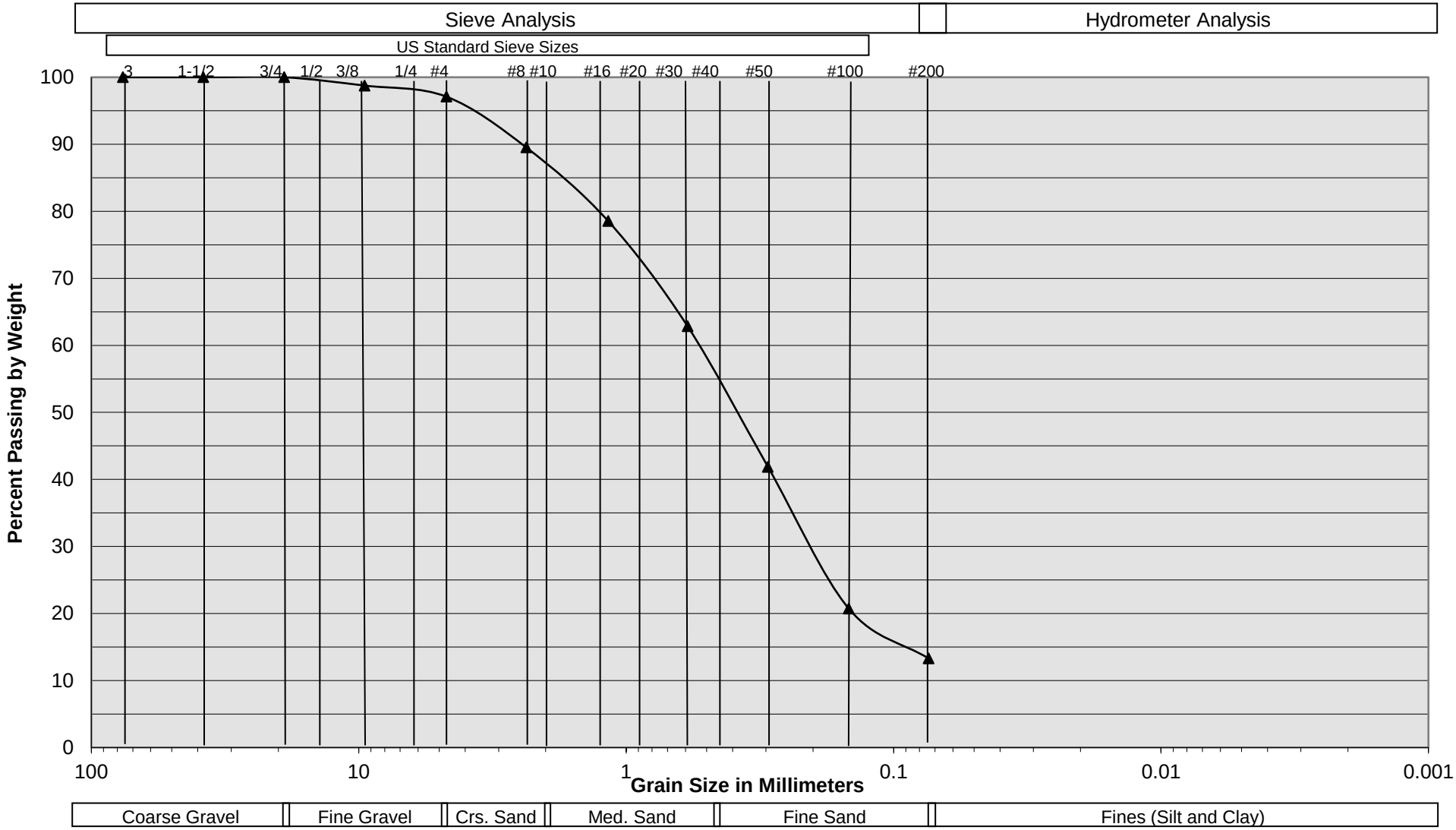
Grain Size Distribution



Sample Description	I-6 @ 14½'
Soil Classification	Brown Clayey fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 4

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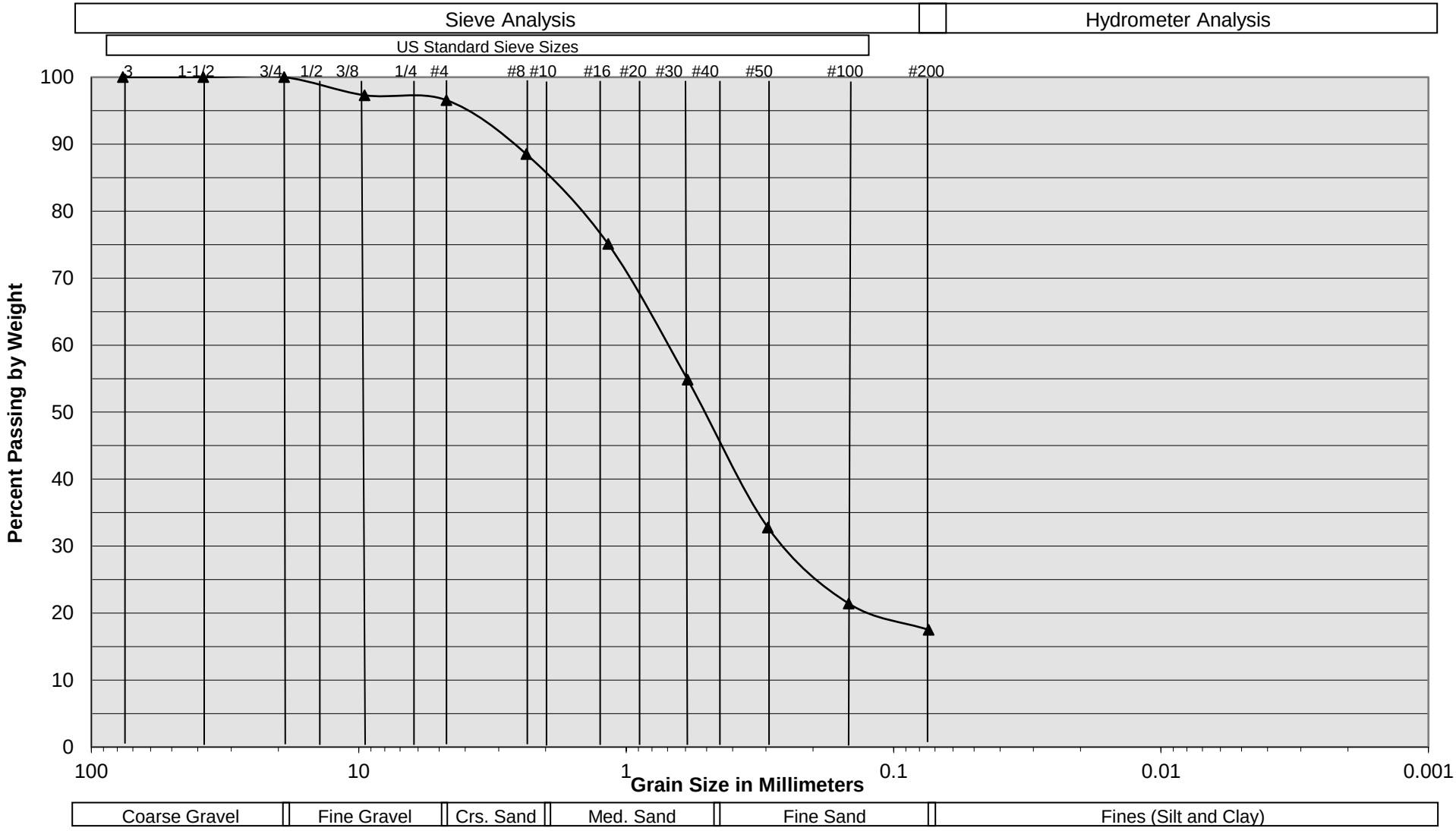
Grain Size Distribution



Sample Description	I-7 @ 5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 5

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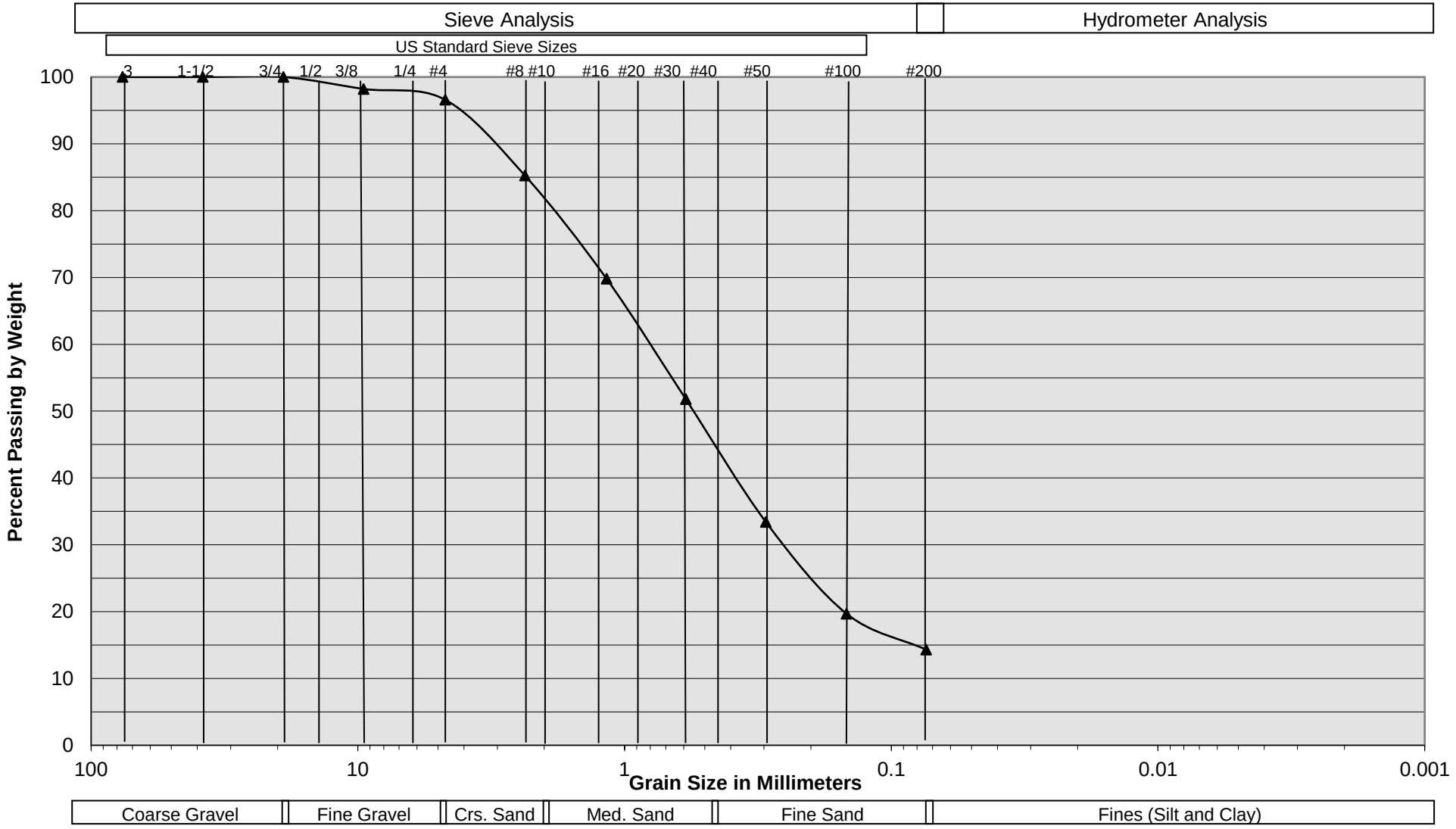
Grain Size Distribution



Sample Description	DW-1 @ 13.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel, trace Clay

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 6

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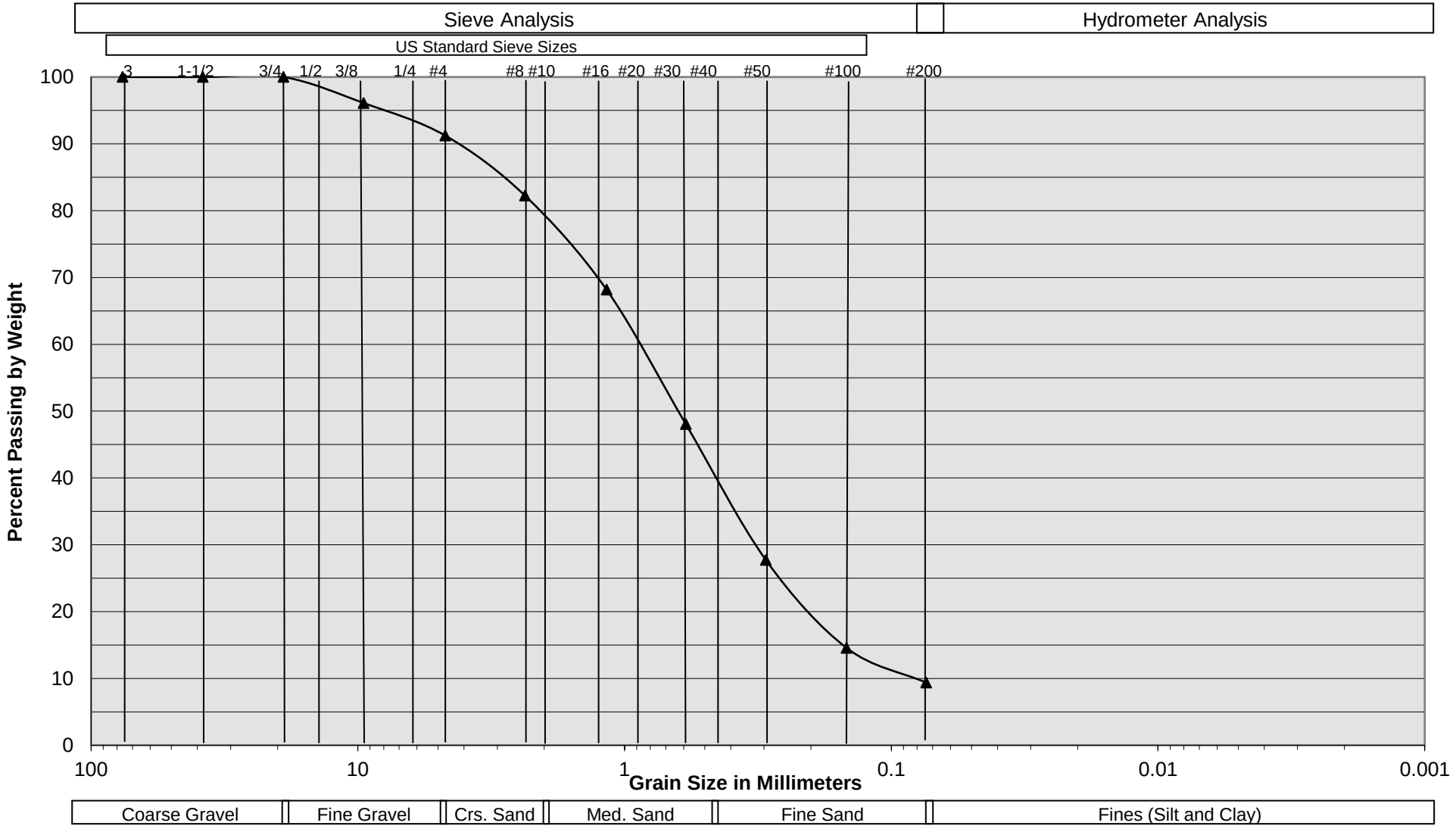
Grain Size Distribution



Sample Description	DW-1 @ 18.5'
Soil Classification	Brown fine to coarse Sand, trace to little Silt, little fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 7

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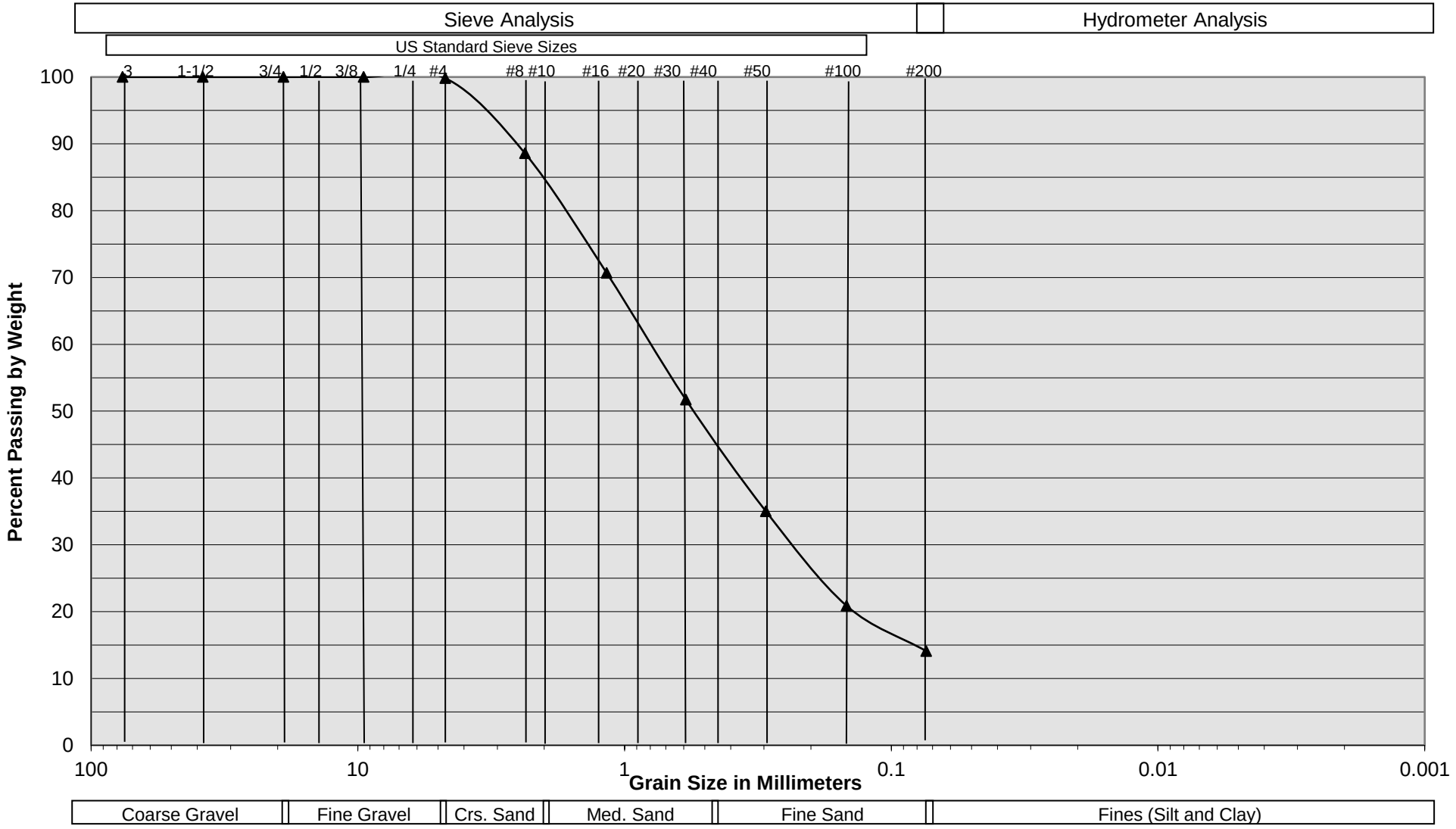
Grain Size Distribution



Sample Description	DW-1 @ 23.5'
Soil Classification	Brown Silty fine to coarse Sand

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 8

SoCalGeo
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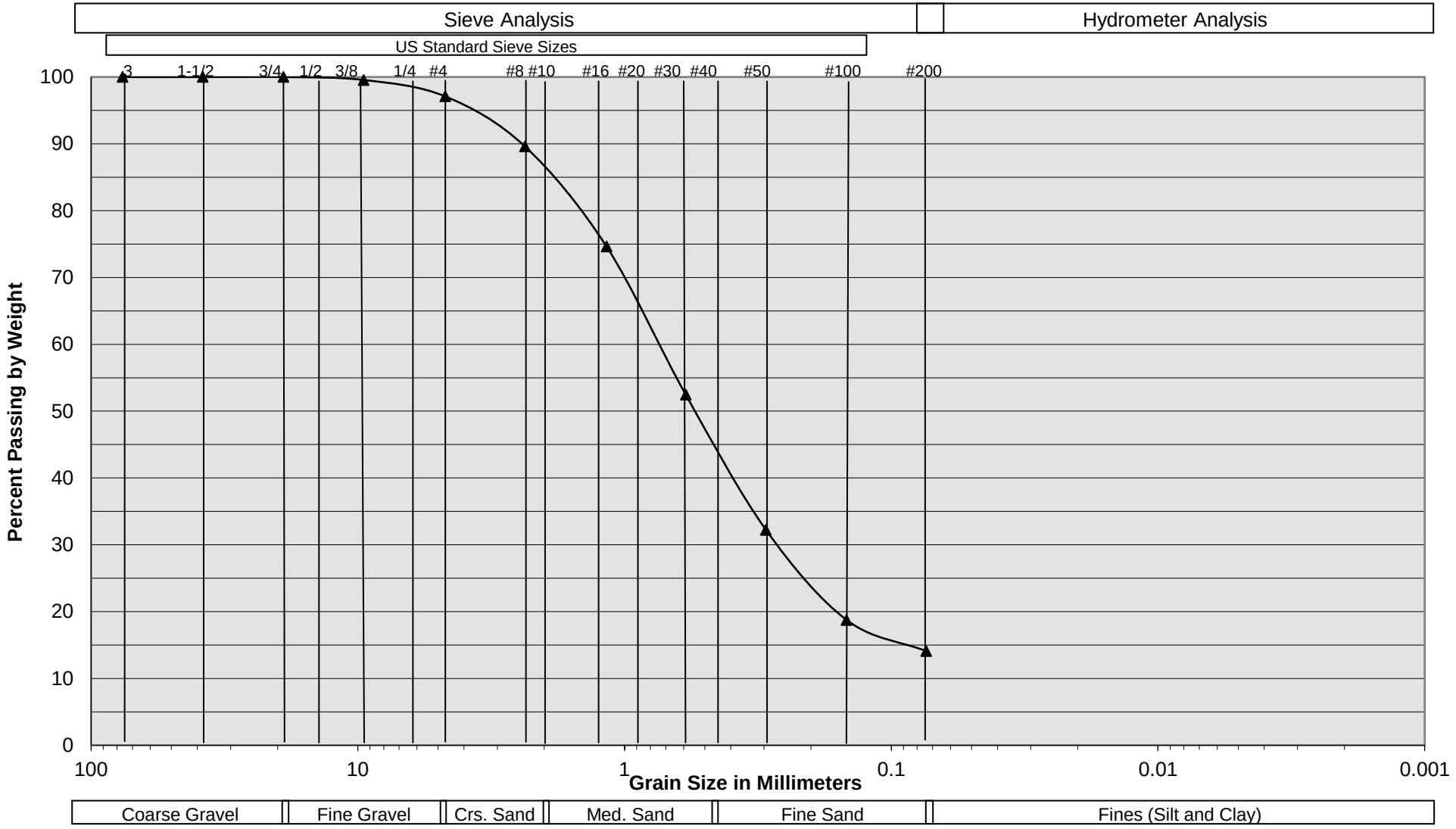
Grain Size Distribution



Sample Description	DW-1 @ 28.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 9

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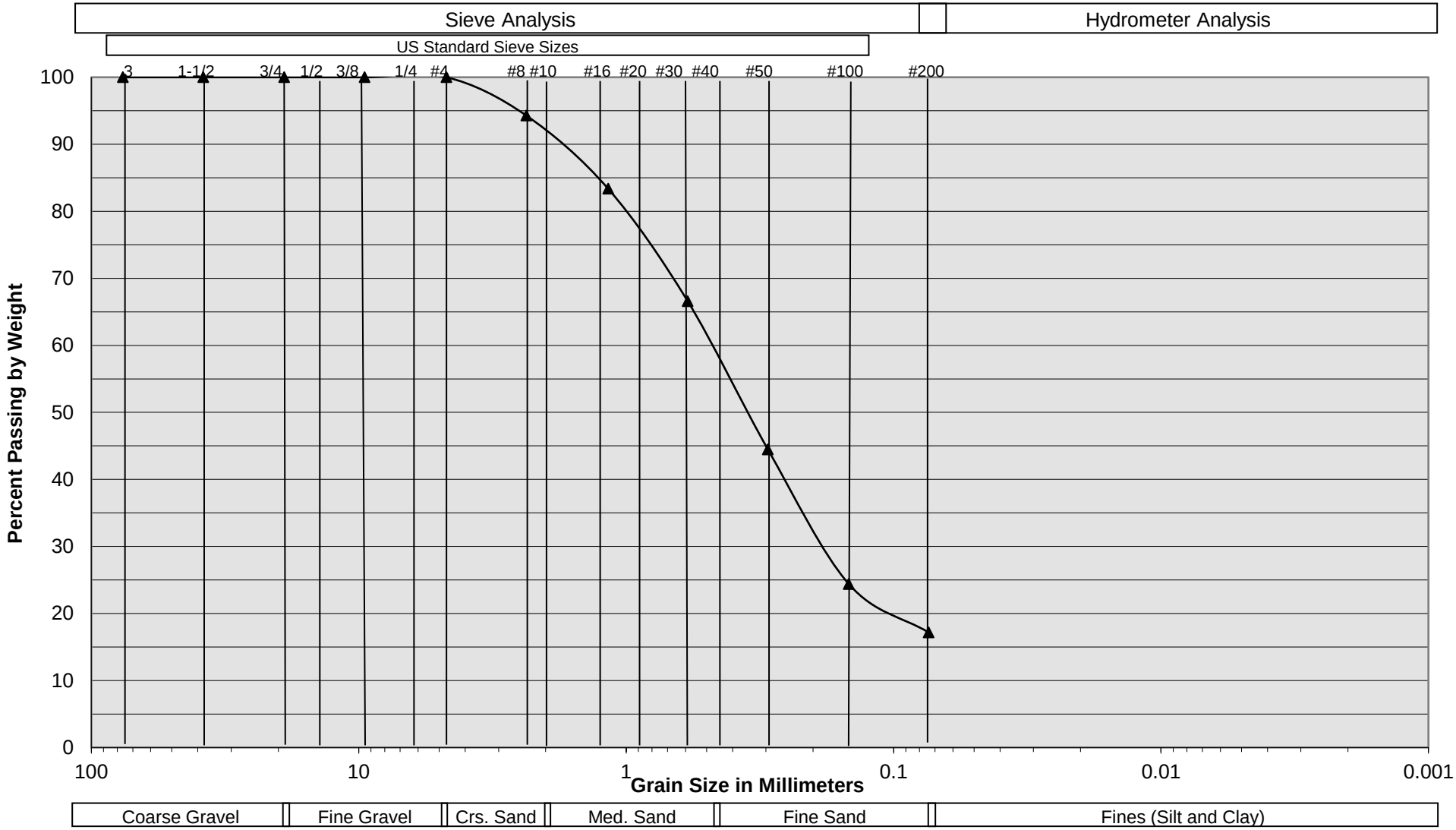
Grain Size Distribution



Sample Description	DW-1 @ 33.5'
Soil Classification	Brown Silty fine to medium Sand, little coarse Sand

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 10

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SOUTHERN CALIFORNIA GEOTECHNICAL
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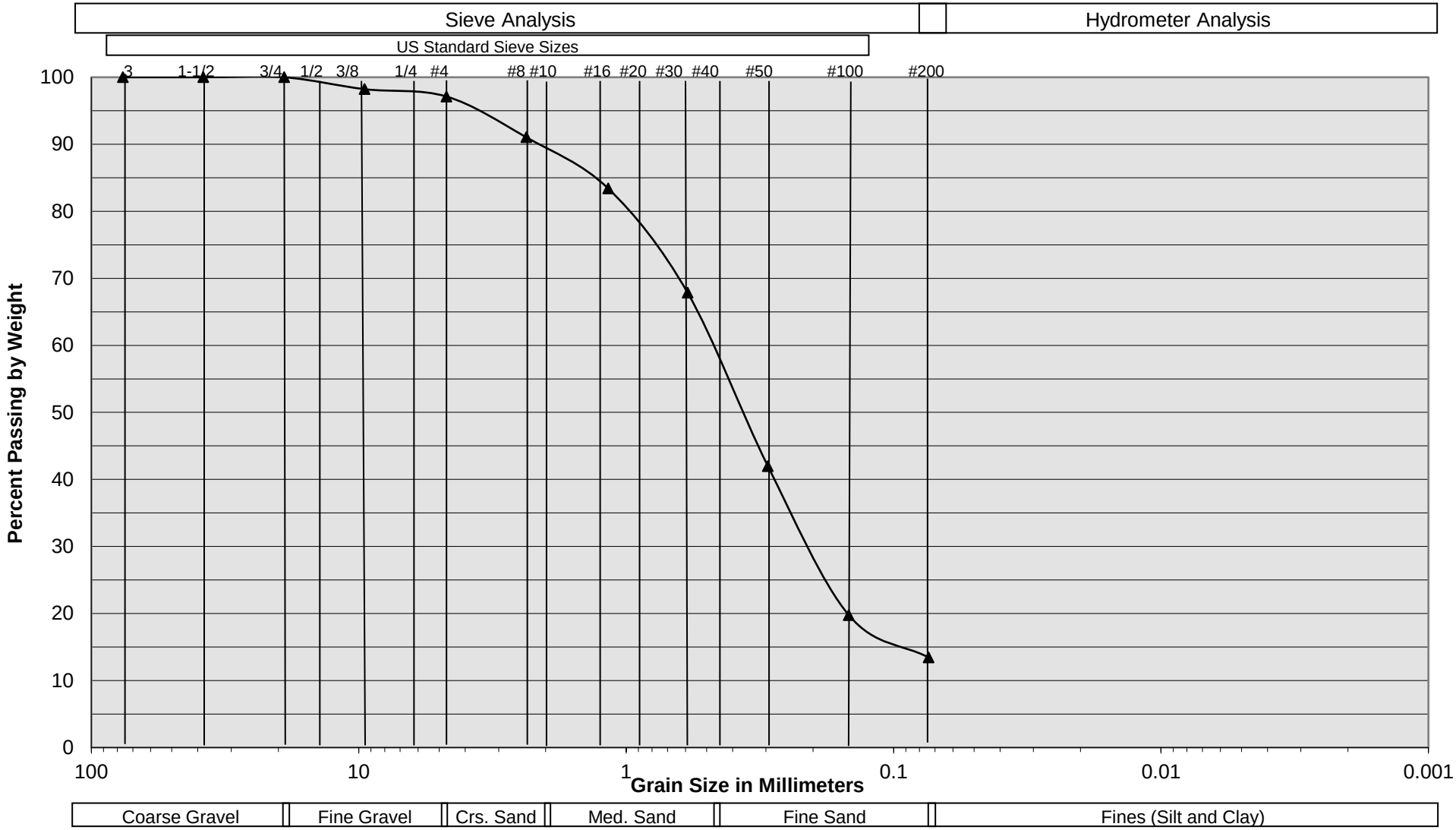
Grain Size Distribution



Sample Description	DW-1 @ 38.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 11

SoCalGeo
SOUTHERN CALIFORNIA GEOTECHNICAL
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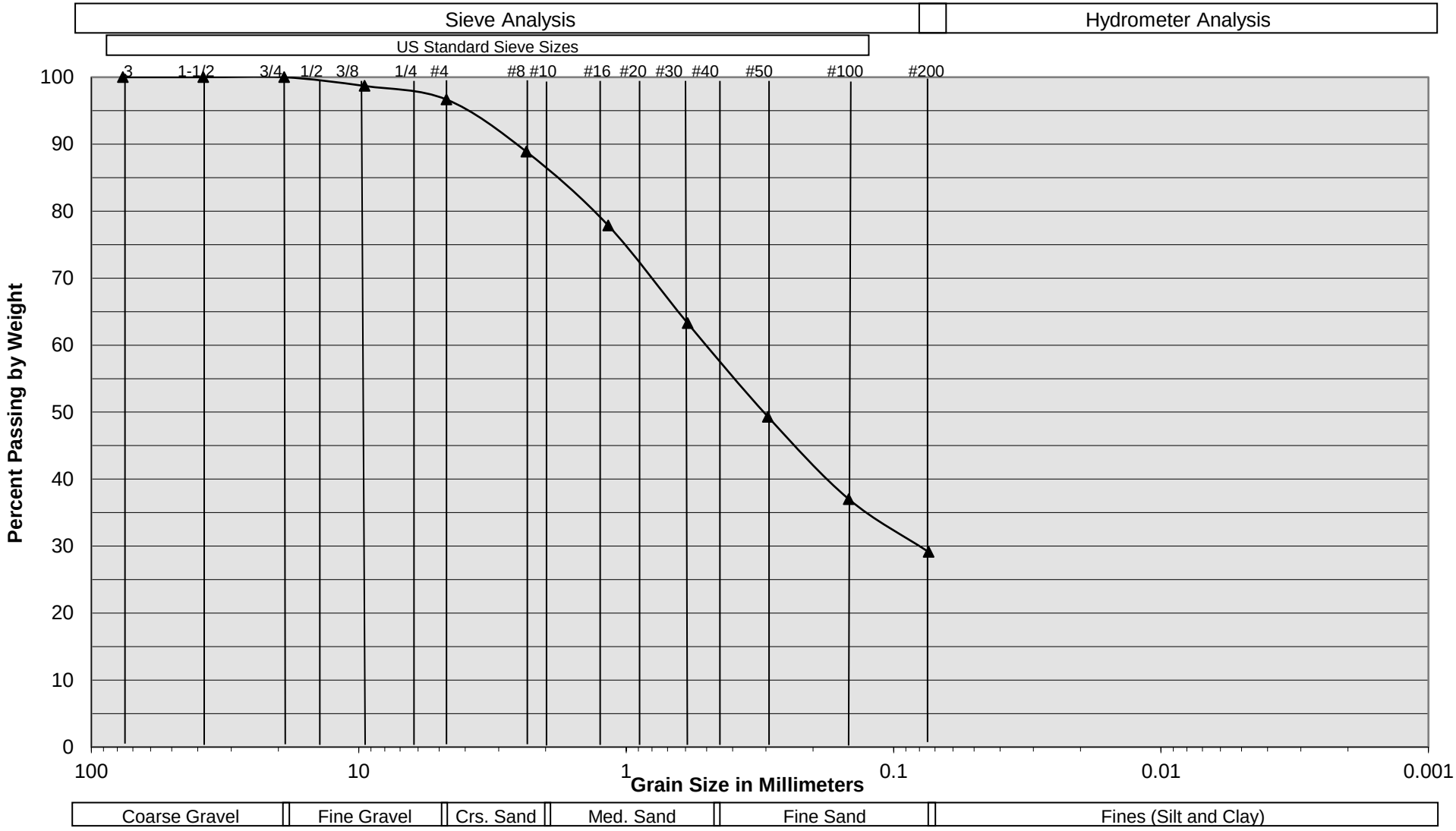
Grain Size Distribution



Sample Description	DW-2 @ 13.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 12

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SOUTHERN CALIFORNIA GEOTECHNICAL
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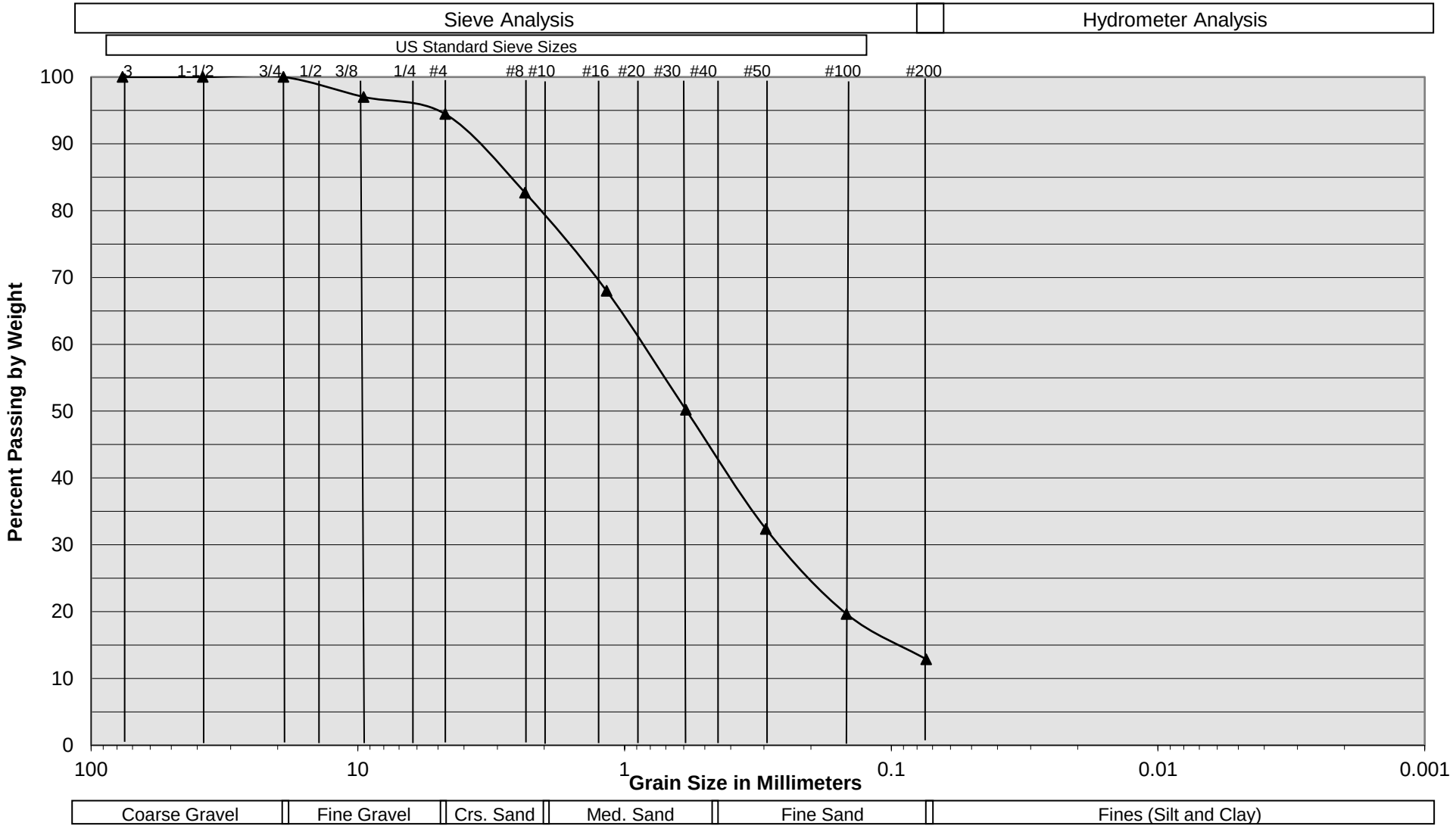
Grain Size Distribution



Sample Description	DW-2 @ 18.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 13

SoCalGeo
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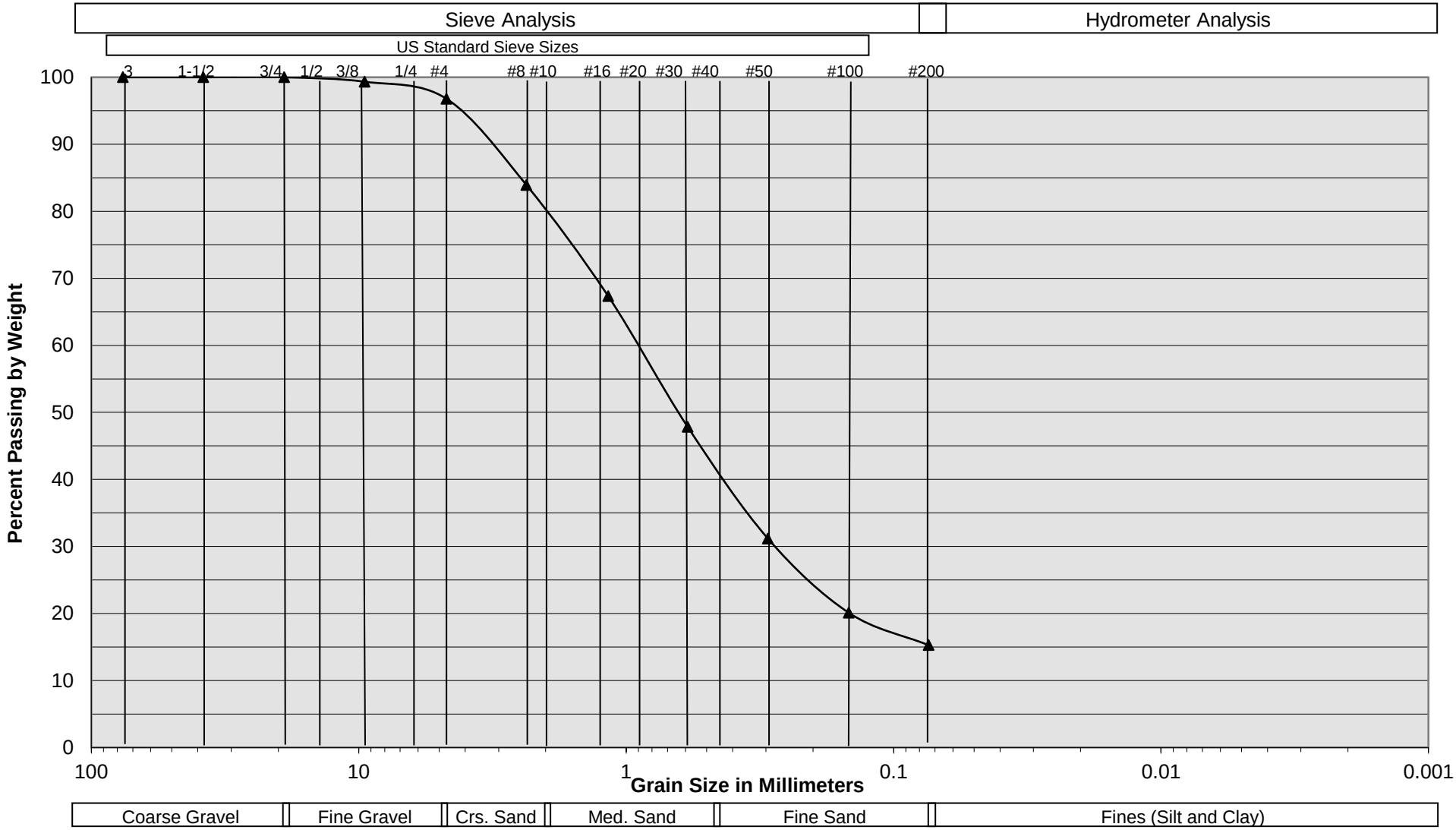
Grain Size Distribution



Sample Description	DW-2 @ 23.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 14

SoCalGeo
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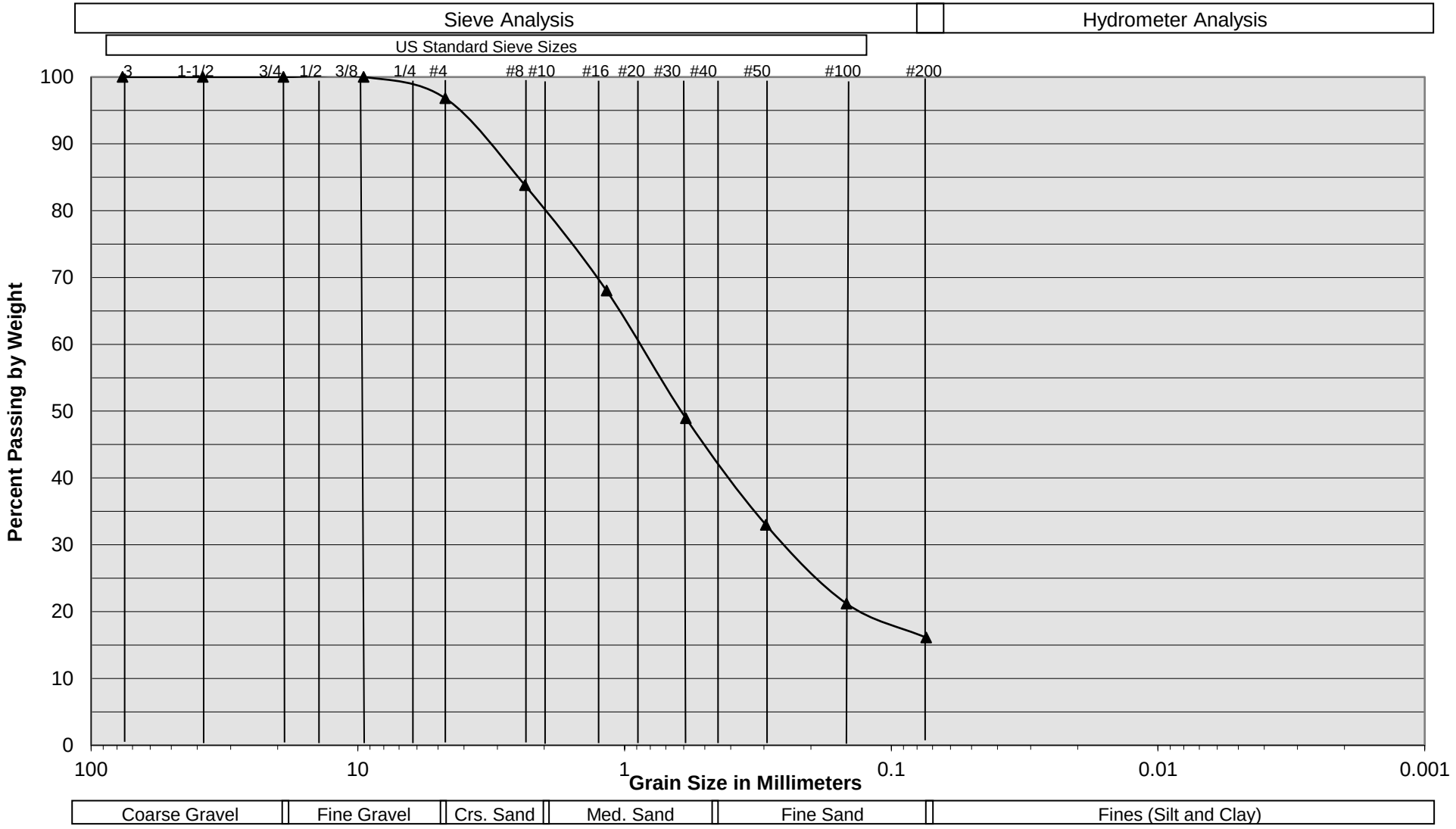
Grain Size Distribution



Sample Description	DW-2 @ 28.5'
Soil Classification	Brown Silty fine to coarse Sand, trace fine Gravel

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 15

SoCalGeo
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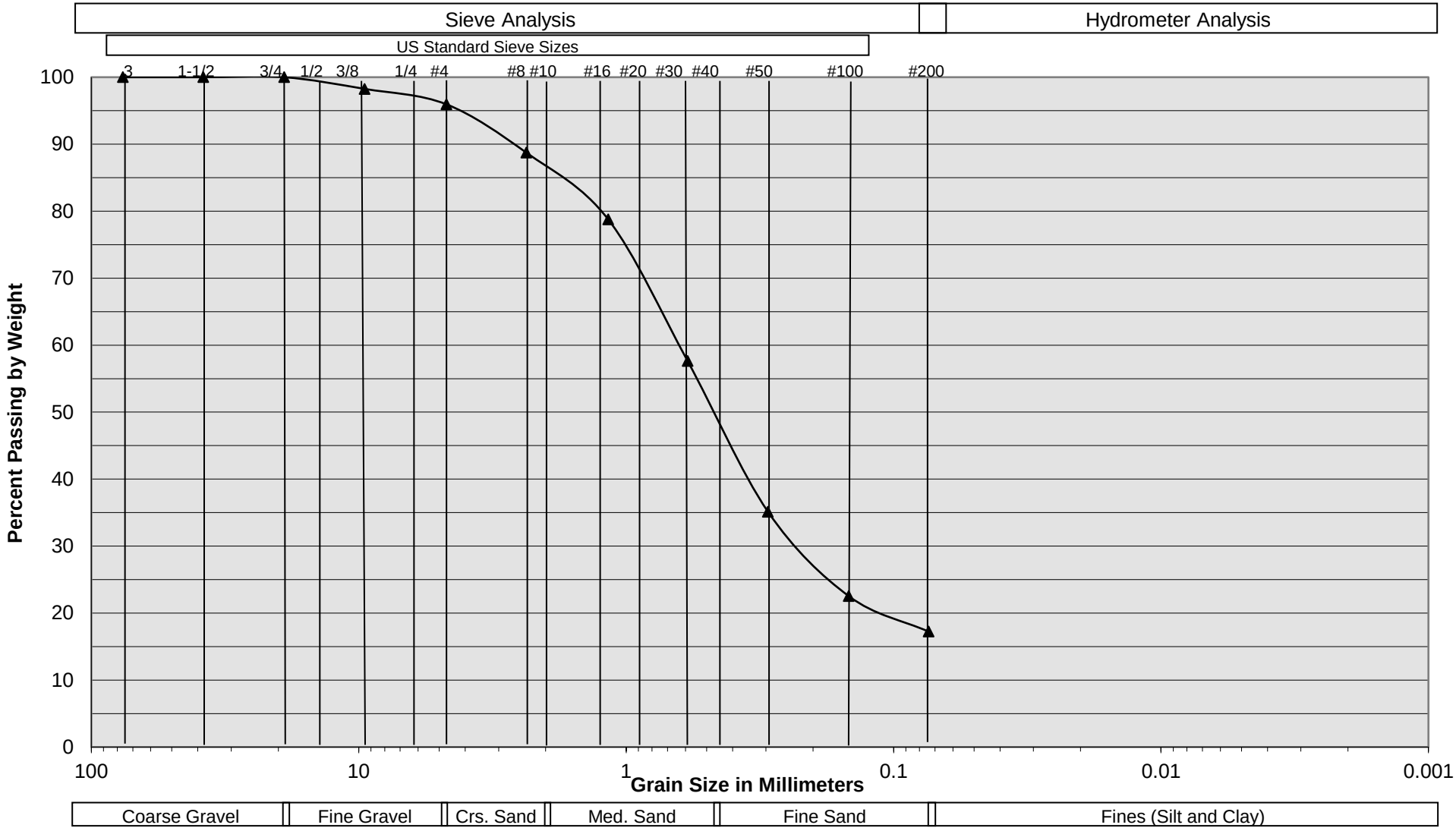
Grain Size Distribution



Sample Description	DW-2 @ 33.5'
Soil Classification	Brown Silty fine to medium Sand, little coarse Sand, trace fine Gravel, trace Clay

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 16

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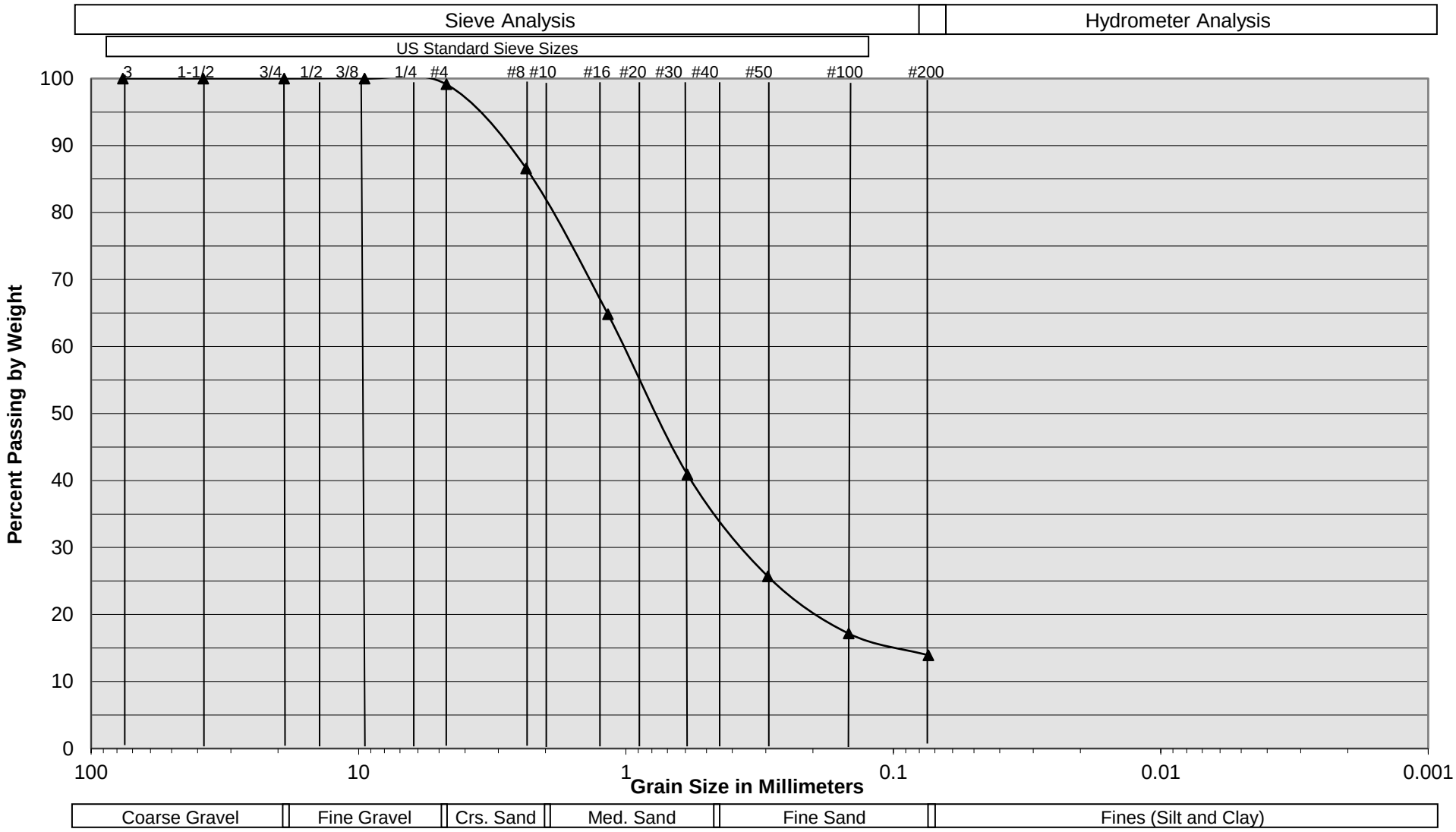
Grain Size Distribution



Sample Description	DW-2 @ 38.5'
Soil Classification	Brown Silty fine to coarse Sand

Proposed Cl Building HCC 1 Lot 5
Hesperia, California
Project No. 23G166-4
PLATE C- 17

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Appendix G
Noise Attachments

Appendix I- Noise

Field Noise Measurement Data Sheets

ST1

Address	Start Time	Leq	Over	Under	Output Ov	Marker 1	Marker 2
1	11/09/2023 12:29:00.0	58	----	-----	--------	-	-
2	11/09/2023 12:29:01.0	58.7	----	-----	--------	-	-
3	11/09/2023 12:29:02.0	59.3	----	-----	--------	-	-
4	11/09/2023 12:29:03.0	60.1	----	-----	--------	-	-
5	11/09/2023 12:29:04.0	58.6	----	-----	--------	-	-
6	11/09/2023 12:29:05.0	58.7	----	-----	--------	-	-
7	11/09/2023 12:29:06.0	59.5	----	-----	--------	-	-
8	11/09/2023 12:29:07.0	60.1	----	-----	--------	-	-
9	11/09/2023 12:29:08.0	58.7	----	-----	--------	-	-
10	11/09/2023 12:29:09.0	59.1	----	-----	--------	-	-
11	11/09/2023 12:29:10.0	59.6	----	-----	--------	-	-
12	11/09/2023 12:29:11.0	58.9	----	-----	--------	-	-
13	11/09/2023 12:29:12.0	58.9	----	-----	--------	-	-
14	11/09/2023 12:29:13.0	59.5	----	-----	--------	-	-
15	11/09/2023 12:29:14.0	61	----	-----	--------	-	-
16	11/09/2023 12:29:15.0	61.5	----	-----	--------	-	-
17	11/09/2023 12:29:16.0	61.1	----	-----	--------	-	-
18	11/09/2023 12:29:17.0	60.2	----	-----	--------	-	-
19	11/09/2023 12:29:18.0	59.4	----	-----	--------	-	-
20	11/09/2023 12:29:19.0	59.8	----	-----	--------	-	-
21	11/09/2023 12:29:20.0	59.9	----	-----	--------	-	-
22	11/09/2023 12:29:21.0	58.1	----	-----	--------	-	-
23	11/09/2023 12:29:22.0	58.7	----	-----	--------	-	-
24	11/09/2023 12:29:23.0	59.5	----	-----	--------	-	-
25	11/09/2023 12:29:24.0	59.1	----	-----	--------	-	-
26	11/09/2023 12:29:25.0	60.8	----	-----	--------	-	-
27	11/09/2023 12:29:26.0	62.4	----	-----	--------	-	-
28	11/09/2023 12:29:27.0	67.7	----	-----	--------	-	-
29	11/09/2023 12:29:28.0	71.2	----	-----	--------	-	-
30	11/09/2023 12:29:29.0	74.7	----	-----	--------	-	-
31	11/09/2023 12:29:30.0	75.5	----	-----	--------	-	-
32	11/09/2023 12:29:31.0	75.3	----	-----	--------	-	-
33	11/09/2023 12:29:32.0	71.8	----	-----	--------	-	-
34	11/09/2023 12:29:33.0	69.1	----	-----	--------	-	-
35	11/09/2023 12:29:34.0	65.2	----	-----	--------	-	-
36	11/09/2023 12:29:35.0	63.7	----	-----	--------	-	-
37	11/09/2023 12:29:36.0	60.9	----	-----	--------	-	-
38	11/09/2023 12:29:37.0	59.7	----	-----	--------	-	-
39	11/09/2023 12:29:38.0	60	----	-----	--------	-	-
40	11/09/2023 12:29:39.0	60.3	----	-----	--------	-	-
41	11/09/2023 12:29:40.0	59.3	----	-----	--------	-	-
42	11/09/2023 12:29:41.0	59.4	----	-----	--------	-	-
43	11/09/2023 12:29:42.0	58.1	----	-----	--------	-	-
44	11/09/2023 12:29:43.0	59.5	----	-----	--------	-	-

45	11/09/2023 12:29:44.0	59.3	----	-----	--------	-	-
46	11/09/2023 12:29:45.0	58.3	----	-----	--------	-	-
47	11/09/2023 12:29:46.0	58.6	----	-----	--------	-	-
48	11/09/2023 12:29:47.0	58.6	----	-----	--------	-	-
49	11/09/2023 12:29:48.0	57.7	----	-----	--------	-	-
50	11/09/2023 12:29:49.0	58.1	----	-----	--------	-	-
51	11/09/2023 12:29:50.0	60.1	----	-----	--------	-	-
52	11/09/2023 12:29:51.0	58.9	----	-----	--------	-	-
53	11/09/2023 12:29:52.0	57.3	----	-----	--------	-	-
54	11/09/2023 12:29:53.0	60.2	----	-----	--------	-	-
55	11/09/2023 12:29:54.0	57.3	----	-----	--------	-	-
56	11/09/2023 12:29:55.0	57.6	----	-----	--------	-	-
57	11/09/2023 12:29:56.0	58.1	----	-----	--------	-	-
58	11/09/2023 12:29:57.0	58.6	----	-----	--------	-	-
59	11/09/2023 12:29:58.0	58.6	----	-----	--------	-	-
60	11/09/2023 12:29:59.0	58.5	----	-----	--------	-	-
61	11/09/2023 12:30:00.0	58	----	-----	--------	-	-
62	11/09/2023 12:30:01.0	58.1	----	-----	--------	-	-
63	11/09/2023 12:30:02.0	58	----	-----	--------	-	-
64	11/09/2023 12:30:03.0	58.3	----	-----	--------	-	-
65	11/09/2023 12:30:04.0	57.6	----	-----	--------	-	-
66	11/09/2023 12:30:05.0	57.3	----	-----	--------	-	-
67	11/09/2023 12:30:06.0	57.5	----	-----	--------	-	-
68	11/09/2023 12:30:07.0	58.2	----	-----	--------	-	-
69	11/09/2023 12:30:08.0	58.2	----	-----	--------	-	-
70	11/09/2023 12:30:09.0	58.5	----	-----	--------	-	-
71	11/09/2023 12:30:10.0	59.3	----	-----	--------	-	-
72	11/09/2023 12:30:11.0	58.5	----	-----	--------	-	-
73	11/09/2023 12:30:12.0	58.4	----	-----	--------	-	-
74	11/09/2023 12:30:13.0	58.2	----	-----	--------	-	-
75	11/09/2023 12:30:14.0	58.4	----	-----	--------	-	-
76	11/09/2023 12:30:15.0	58.8	----	-----	--------	-	-
77	11/09/2023 12:30:16.0	61.2	----	-----	--------	-	-
78	11/09/2023 12:30:17.0	64.5	----	-----	--------	-	-
79	11/09/2023 12:30:18.0	68.5	----	-----	--------	-	-
80	11/09/2023 12:30:19.0	73	----	-----	--------	-	-
81	11/09/2023 12:30:20.0	74.1	----	-----	--------	-	-
82	11/09/2023 12:30:21.0	72.3	----	-----	--------	-	-
83	11/09/2023 12:30:22.0	68.1	----	-----	--------	-	-
84	11/09/2023 12:30:23.0	64.2	----	-----	--------	-	-
85	11/09/2023 12:30:24.0	62.9	----	-----	--------	-	-
86	11/09/2023 12:30:25.0	61.9	----	-----	--------	-	-
87	11/09/2023 12:30:26.0	60.3	----	-----	--------	-	-
88	11/09/2023 12:30:27.0	59.7	----	-----	--------	-	-
89	11/09/2023 12:30:28.0	58.7	----	-----	--------	-	-
90	11/09/2023 12:30:29.0	58	----	-----	--------	-	-
91	11/09/2023 12:30:30.0	58.6	----	-----	--------	-	-

92	11/09/2023 12:30:31.0	59	----	-----	--------	-	-
93	11/09/2023 12:30:32.0	59.8	----	-----	--------	-	-
94	11/09/2023 12:30:33.0	61.6	----	-----	--------	-	-
95	11/09/2023 12:30:34.0	65.4	----	-----	--------	-	-
96	11/09/2023 12:30:35.0	72.2	----	-----	--------	-	-
97	11/09/2023 12:30:36.0	76.7	----	-----	--------	-	-
98	11/09/2023 12:30:37.0	73.8	----	-----	--------	-	-
99	11/09/2023 12:30:38.0	67.4	----	-----	--------	-	-
100	11/09/2023 12:30:39.0	62.1	----	-----	--------	-	-
101	11/09/2023 12:30:40.0	58.3	----	-----	--------	-	-
102	11/09/2023 12:30:41.0	58.4	----	-----	--------	-	-
103	11/09/2023 12:30:42.0	58.1	----	-----	--------	-	-
104	11/09/2023 12:30:43.0	58.1	----	-----	--------	-	-
105	11/09/2023 12:30:44.0	58.2	----	-----	--------	-	-
106	11/09/2023 12:30:45.0	57.6	----	-----	--------	-	-
107	11/09/2023 12:30:46.0	58	----	-----	--------	-	-
108	11/09/2023 12:30:47.0	57.2	----	-----	--------	-	-
109	11/09/2023 12:30:48.0	57.3	----	-----	--------	-	-
110	11/09/2023 12:30:49.0	57	----	-----	--------	-	-
111	11/09/2023 12:30:50.0	57	----	-----	--------	-	-
112	11/09/2023 12:30:51.0	57.1	----	-----	--------	-	-
113	11/09/2023 12:30:52.0	57.5	----	-----	--------	-	-
114	11/09/2023 12:30:53.0	57.1	----	-----	--------	-	-
115	11/09/2023 12:30:54.0	57.5	----	-----	--------	-	-
116	11/09/2023 12:30:55.0	57.2	----	-----	--------	-	-
117	11/09/2023 12:30:56.0	57.5	----	-----	--------	-	-
118	11/09/2023 12:30:57.0	59.2	----	-----	--------	-	-
119	11/09/2023 12:30:58.0	61.2	----	-----	--------	-	-
120	11/09/2023 12:30:59.0	62.3	----	-----	--------	-	-
121	11/09/2023 12:31:00.0	60.9	----	-----	--------	-	-
122	11/09/2023 12:31:01.0	59.6	----	-----	--------	-	-
123	11/09/2023 12:31:02.0	59.9	----	-----	--------	-	-
124	11/09/2023 12:31:03.0	58.8	----	-----	--------	-	-
125	11/09/2023 12:31:04.0	58.6	----	-----	--------	-	-
126	11/09/2023 12:31:05.0	59	----	-----	--------	-	-
127	11/09/2023 12:31:06.0	58.9	----	-----	--------	-	-
128	11/09/2023 12:31:07.0	59.7	----	-----	--------	-	-
129	11/09/2023 12:31:08.0	59.4	----	-----	--------	-	-
130	11/09/2023 12:31:09.0	59.8	----	-----	--------	-	-
131	11/09/2023 12:31:10.0	59.9	----	-----	--------	-	-
132	11/09/2023 12:31:11.0	59.3	----	-----	--------	-	-
133	11/09/2023 12:31:12.0	60	----	-----	--------	-	-
134	11/09/2023 12:31:13.0	61.1	----	-----	--------	-	-
135	11/09/2023 12:31:14.0	65.1	----	-----	--------	-	-
136	11/09/2023 12:31:15.0	66.3	----	-----	--------	-	-
137	11/09/2023 12:31:16.0	66.2	----	-----	--------	-	-
138	11/09/2023 12:31:17.0	64.1	----	-----	--------	-	-

139	11/09/2023 12:31:18.0	61.3	----	-----	--------	-	-
140	11/09/2023 12:31:19.0	60.9	----	-----	--------	-	-
141	11/09/2023 12:31:20.0	61	----	-----	--------	-	-
142	11/09/2023 12:31:21.0	62.3	----	-----	--------	-	-
143	11/09/2023 12:31:22.0	68	----	-----	--------	-	-
144	11/09/2023 12:31:23.0	72.8	----	-----	--------	-	-
145	11/09/2023 12:31:24.0	75.8	----	-----	--------	-	-
146	11/09/2023 12:31:25.0	79	----	-----	--------	-	-
147	11/09/2023 12:31:26.0	81.3	----	-----	--------	-	-
148	11/09/2023 12:31:27.0	80.1	----	-----	--------	-	-
149	11/09/2023 12:31:28.0	76.3	----	-----	--------	-	-
150	11/09/2023 12:31:29.0	73.5	----	-----	--------	-	-
151	11/09/2023 12:31:30.0	69.1	----	-----	--------	-	-
152	11/09/2023 12:31:31.0	62.6	----	-----	--------	-	-
153	11/09/2023 12:31:32.0	59.3	----	-----	--------	-	-
154	11/09/2023 12:31:33.0	59.7	----	-----	--------	-	-
155	11/09/2023 12:31:34.0	61.8	----	-----	--------	-	-
156	11/09/2023 12:31:35.0	64	----	-----	--------	-	-
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159	11/09/2023 12:31:38.0	63	----	-----	--------	-	-
160	11/09/2023 12:31:39.0	61	----	-----	--------	-	-
161	11/09/2023 12:31:40.0	59.1	----	-----	--------	-	-
162	11/09/2023 12:31:41.0	58	----	-----	--------	-	-
163	11/09/2023 12:31:42.0	57.6	----	-----	--------	-	-
164	11/09/2023 12:31:43.0	56.9	----	-----	--------	-	-
165	11/09/2023 12:31:44.0	57.3	----	-----	--------	-	-
166	11/09/2023 12:31:45.0	57.8	----	-----	--------	-	-
167	11/09/2023 12:31:46.0	57.3	----	-----	--------	-	-
168	11/09/2023 12:31:47.0	57.5	----	-----	--------	-	-
169	11/09/2023 12:31:48.0	57.8	----	-----	--------	-	-
170	11/09/2023 12:31:49.0	56.8	----	-----	--------	-	-
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172	11/09/2023 12:31:51.0	56.2	----	-----	--------	-	-
173	11/09/2023 12:31:52.0	56.2	----	-----	--------	-	-
174	11/09/2023 12:31:53.0	57	----	-----	--------	-	-
175	11/09/2023 12:31:54.0	58.5	----	-----	--------	-	-
176	11/09/2023 12:31:55.0	58.3	----	-----	--------	-	-
177	11/09/2023 12:31:56.0	58.2	----	-----	--------	-	-
178	11/09/2023 12:31:57.0	57.9	----	-----	--------	-	-
179	11/09/2023 12:31:58.0	58	----	-----	--------	-	-
180	11/09/2023 12:31:59.0	57.9	----	-----	--------	-	-
181	11/09/2023 12:32:00.0	58.4	----	-----	--------	-	-
182	11/09/2023 12:32:01.0	58	----	-----	--------	-	-
183	11/09/2023 12:32:02.0	57.8	----	-----	--------	-	-
184	11/09/2023 12:32:03.0	58.2	----	-----	--------	-	-
185	11/09/2023 12:32:04.0	58.2	----	-----	--------	-	-

186	11/09/2023 12:32:05.0	58.5	----	-----	--------	-	-
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188	11/09/2023 12:32:07.0	57.6	----	-----	--------	-	-
189	11/09/2023 12:32:08.0	57.1	----	-----	--------	-	-
190	11/09/2023 12:32:09.0	56.6	----	-----	--------	-	-
191	11/09/2023 12:32:10.0	57	----	-----	--------	-	-
192	11/09/2023 12:32:11.0	57.4	----	-----	--------	-	-
193	11/09/2023 12:32:12.0	57.4	----	-----	--------	-	-
194	11/09/2023 12:32:13.0	56.9	----	-----	--------	-	-
195	11/09/2023 12:32:14.0	56.5	----	-----	--------	-	-
196	11/09/2023 12:32:15.0	56.3	----	-----	--------	-	-
197	11/09/2023 12:32:16.0	56.4	----	-----	--------	-	-
198	11/09/2023 12:32:17.0	56.9	----	-----	--------	-	-
199	11/09/2023 12:32:18.0	57.6	----	-----	--------	-	-
200	11/09/2023 12:32:19.0	57.1	----	-----	--------	-	-
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202	11/09/2023 12:32:21.0	56.6	----	-----	--------	-	-
203	11/09/2023 12:32:22.0	56.5	----	-----	--------	-	-
204	11/09/2023 12:32:23.0	56	----	-----	--------	-	-
205	11/09/2023 12:32:24.0	55.7	----	-----	--------	-	-
206	11/09/2023 12:32:25.0	56.4	----	-----	--------	-	-
207	11/09/2023 12:32:26.0	57.2	----	-----	--------	-	-
208	11/09/2023 12:32:27.0	57.2	----	-----	--------	-	-
209	11/09/2023 12:32:28.0	56.7	----	-----	--------	-	-
210	11/09/2023 12:32:29.0	56.6	----	-----	--------	-	-
211	11/09/2023 12:32:30.0	56.5	----	-----	--------	-	-
212	11/09/2023 12:32:31.0	58.8	----	-----	--------	-	-
213	11/09/2023 12:32:32.0	56.8	----	-----	--------	-	-
214	11/09/2023 12:32:33.0	56.4	----	-----	--------	-	-
215	11/09/2023 12:32:34.0	56.6	----	-----	--------	-	-
216	11/09/2023 12:32:35.0	57.2	----	-----	--------	-	-
217	11/09/2023 12:32:36.0	57.8	----	-----	--------	-	-
218	11/09/2023 12:32:37.0	58	----	-----	--------	-	-
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220	11/09/2023 12:32:39.0	57.2	----	-----	--------	-	-
221	11/09/2023 12:32:40.0	57.5	----	-----	--------	-	-
222	11/09/2023 12:32:41.0	57.1	----	-----	--------	-	-
223	11/09/2023 12:32:42.0	58	----	-----	--------	-	-
224	11/09/2023 12:32:43.0	58.4	----	-----	--------	-	-
225	11/09/2023 12:32:44.0	58.8	----	-----	--------	-	-
226	11/09/2023 12:32:45.0	57.9	----	-----	--------	-	-
227	11/09/2023 12:32:46.0	57.4	----	-----	--------	-	-
228	11/09/2023 12:32:47.0	58.2	----	-----	--------	-	-
229	11/09/2023 12:32:48.0	57.9	----	-----	--------	-	-
230	11/09/2023 12:32:49.0	57.8	----	-----	--------	-	-
231	11/09/2023 12:32:50.0	58.2	----	-----	--------	-	-
232	11/09/2023 12:32:51.0	58.5	----	-----	--------	-	-

233	11/09/2023 12:32:52.0	59.3	----	-----	--------	-	-
234	11/09/2023 12:32:53.0	58.8	----	-----	--------	-	-
235	11/09/2023 12:32:54.0	58.8	----	-----	--------	-	-
236	11/09/2023 12:32:55.0	58.7	----	-----	--------	-	-
237	11/09/2023 12:32:56.0	59.1	----	-----	--------	-	-
238	11/09/2023 12:32:57.0	58.9	----	-----	--------	-	-
239	11/09/2023 12:32:58.0	59.1	----	-----	--------	-	-
240	11/09/2023 12:32:59.0	61	----	-----	--------	-	-
241	11/09/2023 12:33:00.0	63.9	----	-----	--------	-	-
242	11/09/2023 12:33:01.0	66.7	----	-----	--------	-	-
243	11/09/2023 12:33:02.0	72.2	----	-----	--------	-	-
244	11/09/2023 12:33:03.0	78.2	----	-----	--------	-	-
245	11/09/2023 12:33:04.0	82.1	----	-----	--------	-	-
246	11/09/2023 12:33:05.0	77.6	----	-----	--------	-	-
247	11/09/2023 12:33:06.0	71.9	----	-----	--------	-	-
248	11/09/2023 12:33:07.0	66.2	----	-----	--------	-	-
249	11/09/2023 12:33:08.0	62.7	----	-----	--------	-	-
250	11/09/2023 12:33:09.0	60.5	----	-----	--------	-	-
251	11/09/2023 12:33:10.0	60.2	----	-----	--------	-	-
252	11/09/2023 12:33:11.0	59.4	----	-----	--------	-	-
253	11/09/2023 12:33:12.0	59.1	----	-----	--------	-	-
254	11/09/2023 12:33:13.0	57.6	----	-----	--------	-	-
255	11/09/2023 12:33:14.0	57.3	----	-----	--------	-	-
256	11/09/2023 12:33:15.0	56.4	----	-----	--------	-	-
257	11/09/2023 12:33:16.0	57.1	----	-----	--------	-	-
258	11/09/2023 12:33:17.0	59.5	----	-----	--------	-	-
259	11/09/2023 12:33:18.0	59.6	----	-----	--------	-	-
260	11/09/2023 12:33:19.0	57.4	----	-----	--------	-	-
261	11/09/2023 12:33:20.0	57.1	----	-----	--------	-	-
262	11/09/2023 12:33:21.0	57.8	----	-----	--------	-	-
263	11/09/2023 12:33:22.0	57.9	----	-----	--------	-	-
264	11/09/2023 12:33:23.0	58.9	----	-----	--------	-	-
265	11/09/2023 12:33:24.0	63.6	----	-----	--------	-	-
266	11/09/2023 12:33:25.0	69.4	----	-----	--------	-	-
267	11/09/2023 12:33:26.0	70.7	----	-----	--------	-	-
268	11/09/2023 12:33:27.0	68.8	----	-----	--------	-	-
269	11/09/2023 12:33:28.0	63.9	----	-----	--------	-	-
270	11/09/2023 12:33:29.0	60.8	----	-----	--------	-	-
271	11/09/2023 12:33:30.0	60	----	-----	--------	-	-
272	11/09/2023 12:33:31.0	58.9	----	-----	--------	-	-
273	11/09/2023 12:33:32.0	59	----	-----	--------	-	-
274	11/09/2023 12:33:33.0	57.8	----	-----	--------	-	-
275	11/09/2023 12:33:34.0	57.4	----	-----	--------	-	-
276	11/09/2023 12:33:35.0	57	----	-----	--------	-	-
277	11/09/2023 12:33:36.0	57.1	----	-----	--------	-	-
278	11/09/2023 12:33:37.0	56.9	----	-----	--------	-	-
279	11/09/2023 12:33:38.0	61.2	----	-----	--------	-	-

280	11/09/2023 12:33:39.0	57.2	----	-----	--------	-	-
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282	11/09/2023 12:33:41.0	61.5	----	-----	--------	-	-
283	11/09/2023 12:33:42.0	56	----	-----	--------	-	-
284	11/09/2023 12:33:43.0	55.5	----	-----	--------	-	-
285	11/09/2023 12:33:44.0	56.3	----	-----	--------	-	-
286	11/09/2023 12:33:45.0	55.5	----	-----	--------	-	-
287	11/09/2023 12:33:46.0	55.2	----	-----	--------	-	-
288	11/09/2023 12:33:47.0	55.6	----	-----	--------	-	-
289	11/09/2023 12:33:48.0	55.5	----	-----	--------	-	-
290	11/09/2023 12:33:49.0	55.2	----	-----	--------	-	-
291	11/09/2023 12:33:50.0	55.1	----	-----	--------	-	-
292	11/09/2023 12:33:51.0	56.5	----	-----	--------	-	-
293	11/09/2023 12:33:52.0	56.1	----	-----	--------	-	-
294	11/09/2023 12:33:53.0	56.2	----	-----	--------	-	-
295	11/09/2023 12:33:54.0	56.1	----	-----	--------	-	-
296	11/09/2023 12:33:55.0	55.8	----	-----	--------	-	-
297	11/09/2023 12:33:56.0	56	----	-----	--------	-	-
298	11/09/2023 12:33:57.0	55.8	----	-----	--------	-	-
299	11/09/2023 12:33:58.0	55.3	----	-----	--------	-	-
300	11/09/2023 12:33:59.0	57.1	----	-----	--------	-	-
301	11/09/2023 12:34:00.0	57.2	----	-----	--------	-	-
302	11/09/2023 12:34:01.0	56.6	----	-----	--------	-	-
303	11/09/2023 12:34:02.0	56.3	----	-----	--------	-	-
304	11/09/2023 12:34:03.0	57.1	----	-----	--------	-	-
305	11/09/2023 12:34:04.0	56.4	----	-----	--------	-	-
306	11/09/2023 12:34:05.0	56	----	-----	--------	-	-
307	11/09/2023 12:34:06.0	55.8	----	-----	--------	-	-
308	11/09/2023 12:34:07.0	55.8	----	-----	--------	-	-
309	11/09/2023 12:34:08.0	55.4	----	-----	--------	-	-
310	11/09/2023 12:34:09.0	55.8	----	-----	--------	-	-
311	11/09/2023 12:34:10.0	56.1	----	-----	--------	-	-
312	11/09/2023 12:34:11.0	57.8	----	-----	--------	-	-
313	11/09/2023 12:34:12.0	58.5	----	-----	--------	-	-
314	11/09/2023 12:34:13.0	57.9	----	-----	--------	-	-
315	11/09/2023 12:34:14.0	57.7	----	-----	--------	-	-
316	11/09/2023 12:34:15.0	58.2	----	-----	--------	-	-
317	11/09/2023 12:34:16.0	57	----	-----	--------	-	-
318	11/09/2023 12:34:17.0	57	----	-----	--------	-	-
319	11/09/2023 12:34:18.0	56.9	----	-----	--------	-	-
320	11/09/2023 12:34:19.0	56.8	----	-----	--------	-	-
321	11/09/2023 12:34:20.0	57.5	----	-----	--------	-	-
322	11/09/2023 12:34:21.0	57.7	----	-----	--------	-	-
323	11/09/2023 12:34:22.0	57.5	----	-----	--------	-	-
324	11/09/2023 12:34:23.0	56.8	----	-----	--------	-	-
325	11/09/2023 12:34:24.0	56.6	----	-----	--------	-	-
326	11/09/2023 12:34:25.0	57.4	----	-----	--------	-	-

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328	11/09/2023 12:34:27.0	56.8	----	-----	--------	-	-
329	11/09/2023 12:34:28.0	57.1	----	-----	--------	-	-
330	11/09/2023 12:34:29.0	58.4	----	-----	--------	-	-
331	11/09/2023 12:34:30.0	59.5	----	-----	--------	-	-
332	11/09/2023 12:34:31.0	59	----	-----	--------	-	-
333	11/09/2023 12:34:32.0	60.9	----	-----	--------	-	-
334	11/09/2023 12:34:33.0	59.4	----	-----	--------	-	-
335	11/09/2023 12:34:34.0	60.7	----	-----	--------	-	-
336	11/09/2023 12:34:35.0	58.3	----	-----	--------	-	-
337	11/09/2023 12:34:36.0	58.8	----	-----	--------	-	-
338	11/09/2023 12:34:37.0	62.3	----	-----	--------	-	-
339	11/09/2023 12:34:38.0	63.7	----	-----	--------	-	-
340	11/09/2023 12:34:39.0	64	----	-----	--------	-	-
341	11/09/2023 12:34:40.0	60.5	----	-----	--------	-	-
342	11/09/2023 12:34:41.0	60.5	----	-----	--------	-	-
343	11/09/2023 12:34:42.0	59.7	----	-----	--------	-	-
344	11/09/2023 12:34:43.0	59.9	----	-----	--------	-	-
345	11/09/2023 12:34:44.0	59.8	----	-----	--------	-	-
346	11/09/2023 12:34:45.0	58.6	----	-----	--------	-	-
347	11/09/2023 12:34:46.0	58.7	----	-----	--------	-	-
348	11/09/2023 12:34:47.0	59.2	----	-----	--------	-	-
349	11/09/2023 12:34:48.0	60.7	----	-----	--------	-	-
350	11/09/2023 12:34:49.0	63.9	----	-----	--------	-	-
351	11/09/2023 12:34:50.0	64.2	----	-----	--------	-	-
352	11/09/2023 12:34:51.0	62.5	----	-----	--------	-	-
353	11/09/2023 12:34:52.0	61.9	----	-----	--------	-	-
354	11/09/2023 12:34:53.0	63.7	----	-----	--------	-	-
355	11/09/2023 12:34:54.0	61.8	----	-----	--------	-	-
356	11/09/2023 12:34:55.0	61.1	----	-----	--------	-	-
357	11/09/2023 12:34:56.0	60.5	----	-----	--------	-	-
358	11/09/2023 12:34:57.0	59.5	----	-----	--------	-	-
359	11/09/2023 12:34:58.0	58.8	----	-----	--------	-	-
360	11/09/2023 12:34:59.0	57.9	----	-----	--------	-	-
361	11/09/2023 12:35:00.0	58.3	----	-----	--------	-	-
362	11/09/2023 12:35:01.0	58	----	-----	--------	-	-
363	11/09/2023 12:35:02.0	58.3	----	-----	--------	-	-
364	11/09/2023 12:35:03.0	58.2	----	-----	--------	-	-
365	11/09/2023 12:35:04.0	58.8	----	-----	--------	-	-
366	11/09/2023 12:35:05.0	58.2	----	-----	--------	-	-
367	11/09/2023 12:35:06.0	58.4	----	-----	--------	-	-
368	11/09/2023 12:35:07.0	57.9	----	-----	--------	-	-
369	11/09/2023 12:35:08.0	58	----	-----	--------	-	-
370	11/09/2023 12:35:09.0	58.3	----	-----	--------	-	-
371	11/09/2023 12:35:10.0	59.2	----	-----	--------	-	-
372	11/09/2023 12:35:11.0	60.6	----	-----	--------	-	-
373	11/09/2023 12:35:12.0	61.3	----	-----	--------	-	-

374	11/09/2023 12:35:13.0	60.2	----	-----	--------	-	-
375	11/09/2023 12:35:14.0	60.6	----	-----	--------	-	-
376	11/09/2023 12:35:15.0	60.3	----	-----	--------	-	-
377	11/09/2023 12:35:16.0	58.6	----	-----	--------	-	-
378	11/09/2023 12:35:17.0	58.5	----	-----	--------	-	-
379	11/09/2023 12:35:18.0	58.9	----	-----	--------	-	-
380	11/09/2023 12:35:19.0	60	----	-----	--------	-	-
381	11/09/2023 12:35:20.0	59	----	-----	--------	-	-
382	11/09/2023 12:35:21.0	58.5	----	-----	--------	-	-
383	11/09/2023 12:35:22.0	58.5	----	-----	--------	-	-
384	11/09/2023 12:35:23.0	58.8	----	-----	--------	-	-
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386	11/09/2023 12:35:25.0	58.1	----	-----	--------	-	-
387	11/09/2023 12:35:26.0	58.3	----	-----	--------	-	-
388	11/09/2023 12:35:27.0	58.3	----	-----	--------	-	-
389	11/09/2023 12:35:28.0	58.9	----	-----	--------	-	-
390	11/09/2023 12:35:29.0	58.2	----	-----	--------	-	-
391	11/09/2023 12:35:30.0	58.4	----	-----	--------	-	-
392	11/09/2023 12:35:31.0	58.1	----	-----	--------	-	-
393	11/09/2023 12:35:32.0	57.5	----	-----	--------	-	-
394	11/09/2023 12:35:33.0	58.3	----	-----	--------	-	-
395	11/09/2023 12:35:34.0	59.1	----	-----	--------	-	-
396	11/09/2023 12:35:35.0	59	----	-----	--------	-	-
397	11/09/2023 12:35:36.0	59.2	----	-----	--------	-	-
398	11/09/2023 12:35:37.0	59	----	-----	--------	-	-
399	11/09/2023 12:35:38.0	59.3	----	-----	--------	-	-
400	11/09/2023 12:35:39.0	59	----	-----	--------	-	-
401	11/09/2023 12:35:40.0	59.2	----	-----	--------	-	-
402	11/09/2023 12:35:41.0	59.9	----	-----	--------	-	-
403	11/09/2023 12:35:42.0	59.1	----	-----	--------	-	-
404	11/09/2023 12:35:43.0	58	----	-----	--------	-	-
405	11/09/2023 12:35:44.0	57.9	----	-----	--------	-	-
406	11/09/2023 12:35:45.0	58.4	----	-----	--------	-	-
407	11/09/2023 12:35:46.0	58	----	-----	--------	-	-
408	11/09/2023 12:35:47.0	60	----	-----	--------	-	-
409	11/09/2023 12:35:48.0	63.5	----	-----	--------	-	-
410	11/09/2023 12:35:49.0	68.6	----	-----	--------	-	-
411	11/09/2023 12:35:50.0	71.2	----	-----	--------	-	-
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414	11/09/2023 12:35:53.0	60.5	----	-----	--------	-	-
415	11/09/2023 12:35:54.0	60.2	----	-----	--------	-	-
416	11/09/2023 12:35:55.0	58.7	----	-----	--------	-	-
417	11/09/2023 12:35:56.0	58.2	----	-----	--------	-	-
418	11/09/2023 12:35:57.0	59.1	----	-----	--------	-	-
419	11/09/2023 12:35:58.0	58.4	----	-----	--------	-	-
420	11/09/2023 12:35:59.0	58.1	----	-----	--------	-	-

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426	11/09/2023 12:36:05.0	58	----	-----	--------	-	-
427	11/09/2023 12:36:06.0	58.8	----	-----	--------	-	-
428	11/09/2023 12:36:07.0	57.8	----	-----	--------	-	-
429	11/09/2023 12:36:08.0	57.8	----	-----	--------	-	-
430	11/09/2023 12:36:09.0	58.7	----	-----	--------	-	-
431	11/09/2023 12:36:10.0	58	----	-----	--------	-	-
432	11/09/2023 12:36:11.0	57.4	----	-----	--------	-	-
433	11/09/2023 12:36:12.0	56.8	----	-----	--------	-	-
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437	11/09/2023 12:36:16.0	58.1	----	-----	--------	-	-
438	11/09/2023 12:36:17.0	57.5	----	-----	--------	-	-
439	11/09/2023 12:36:18.0	57	----	-----	--------	-	-
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443	11/09/2023 12:36:22.0	58.1	----	-----	--------	-	-
444	11/09/2023 12:36:23.0	57.7	----	-----	--------	-	-
445	11/09/2023 12:36:24.0	58.5	----	-----	--------	-	-
446	11/09/2023 12:36:25.0	59.7	----	-----	--------	-	-
447	11/09/2023 12:36:26.0	59.9	----	-----	--------	-	-
448	11/09/2023 12:36:27.0	59.7	----	-----	--------	-	-
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450	11/09/2023 12:36:29.0	59.9	----	-----	--------	-	-
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454	11/09/2023 12:36:33.0	58.4	----	-----	--------	-	-
455	11/09/2023 12:36:34.0	58.8	----	-----	--------	-	-
456	11/09/2023 12:36:35.0	59.1	----	-----	--------	-	-
457	11/09/2023 12:36:36.0	57.7	----	-----	--------	-	-
458	11/09/2023 12:36:37.0	57.8	----	-----	--------	-	-
459	11/09/2023 12:36:38.0	57.2	----	-----	--------	-	-
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462	11/09/2023 12:36:41.0	56.7	----	-----	--------	-	-
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466	11/09/2023 12:36:45.0	56.5	----	-----	--------	-	-
467	11/09/2023 12:36:46.0	56.5	----	-----	--------	-	-

468	11/09/2023 12:36:47.0	58.2	----	-----	--------	-	-
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471	11/09/2023 12:36:50.0	56.3	----	-----	--------	-	-
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473	11/09/2023 12:36:52.0	56.8	----	-----	--------	-	-
474	11/09/2023 12:36:53.0	56.6	----	-----	--------	-	-
475	11/09/2023 12:36:54.0	56.4	----	-----	--------	-	-
476	11/09/2023 12:36:55.0	57.4	----	-----	--------	-	-
477	11/09/2023 12:36:56.0	59.3	----	-----	--------	-	-
478	11/09/2023 12:36:57.0	58.1	----	-----	--------	-	-
479	11/09/2023 12:36:58.0	64.2	----	-----	--------	-	-
480	11/09/2023 12:36:59.0	65	----	-----	--------	-	-
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482	11/09/2023 12:37:01.0	63.2	----	-----	--------	-	-
483	11/09/2023 12:37:02.0	66.1	----	-----	--------	-	-
484	11/09/2023 12:37:03.0	69.3	----	-----	--------	-	-
485	11/09/2023 12:37:04.0	68.2	----	-----	--------	-	-
486	11/09/2023 12:37:05.0	66.3	----	-----	--------	-	-
487	11/09/2023 12:37:06.0	64.3	----	-----	--------	-	-
488	11/09/2023 12:37:07.0	71.6	----	-----	--------	-	-
489	11/09/2023 12:37:08.0	73.1	----	-----	--------	-	-
490	11/09/2023 12:37:09.0	69.5	----	-----	--------	-	-
491	11/09/2023 12:37:10.0	63.1	----	-----	--------	-	-
492	11/09/2023 12:37:11.0	59	----	-----	--------	-	-
493	11/09/2023 12:37:12.0	59.4	----	-----	--------	-	-
494	11/09/2023 12:37:13.0	57.2	----	-----	--------	-	-
495	11/09/2023 12:37:14.0	56.3	----	-----	--------	-	-
496	11/09/2023 12:37:15.0	57.2	----	-----	--------	-	-
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498	11/09/2023 12:37:17.0	56.6	----	-----	--------	-	-
499	11/09/2023 12:37:18.0	56.4	----	-----	--------	-	-
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502	11/09/2023 12:37:21.0	57.2	----	-----	--------	-	-
503	11/09/2023 12:37:22.0	57.7	----	-----	--------	-	-
504	11/09/2023 12:37:23.0	56.8	----	-----	--------	-	-
505	11/09/2023 12:37:24.0	58.3	----	-----	--------	-	-
506	11/09/2023 12:37:25.0	57.4	----	-----	--------	-	-
507	11/09/2023 12:37:26.0	57.1	----	-----	--------	-	-
508	11/09/2023 12:37:27.0	60.1	----	-----	--------	-	-
509	11/09/2023 12:37:28.0	64.3	----	-----	--------	-	-
510	11/09/2023 12:37:29.0	71.8	----	-----	--------	-	-
511	11/09/2023 12:37:30.0	73.2	----	-----	--------	-	-
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513	11/09/2023 12:37:32.0	62.3	----	-----	--------	-	-
514	11/09/2023 12:37:33.0	57.1	----	-----	--------	-	-

515	11/09/2023 12:37:34.0	55.8	----	-----	--------	-	-
516	11/09/2023 12:37:35.0	55.3	----	-----	--------	-	-
517	11/09/2023 12:37:36.0	55.3	----	-----	--------	-	-
518	11/09/2023 12:37:37.0	55.9	----	-----	--------	-	-
519	11/09/2023 12:37:38.0	56.8	----	-----	--------	-	-
520	11/09/2023 12:37:39.0	56.2	----	-----	--------	-	-
521	11/09/2023 12:37:40.0	56.2	----	-----	--------	-	-
522	11/09/2023 12:37:41.0	56.3	----	-----	--------	-	-
523	11/09/2023 12:37:42.0	56.4	----	-----	--------	-	-
524	11/09/2023 12:37:43.0	56.3	----	-----	--------	-	-
525	11/09/2023 12:37:44.0	56.2	----	-----	--------	-	-
526	11/09/2023 12:37:45.0	56.1	----	-----	--------	-	-
527	11/09/2023 12:37:46.0	56.1	----	-----	--------	-	-
528	11/09/2023 12:37:47.0	56.7	----	-----	--------	-	-
529	11/09/2023 12:37:48.0	56.7	----	-----	--------	-	-
530	11/09/2023 12:37:49.0	57	----	-----	--------	-	-
531	11/09/2023 12:37:50.0	57.5	----	-----	--------	-	-
532	11/09/2023 12:37:51.0	57.2	----	-----	--------	-	-
533	11/09/2023 12:37:52.0	56.8	----	-----	--------	-	-
534	11/09/2023 12:37:53.0	57.4	----	-----	--------	-	-
535	11/09/2023 12:37:54.0	57.5	----	-----	--------	-	-
536	11/09/2023 12:37:55.0	57.3	----	-----	--------	-	-
537	11/09/2023 12:37:56.0	57.5	----	-----	--------	-	-
538	11/09/2023 12:37:57.0	58.1	----	-----	--------	-	-
539	11/09/2023 12:37:58.0	58.1	----	-----	--------	-	-
540	11/09/2023 12:37:59.0	57.7	----	-----	--------	-	-
541	11/09/2023 12:38:00.0	57.7	----	-----	--------	-	-
542	11/09/2023 12:38:01.0	56.9	----	-----	--------	-	-
543	11/09/2023 12:38:02.0	57	----	-----	--------	-	-
544	11/09/2023 12:38:03.0	56.7	----	-----	--------	-	-
545	11/09/2023 12:38:04.0	57.5	----	-----	--------	-	-
546	11/09/2023 12:38:05.0	56.9	----	-----	--------	-	-
547	11/09/2023 12:38:06.0	56.6	----	-----	--------	-	-
548	11/09/2023 12:38:07.0	57.3	----	-----	--------	-	-
549	11/09/2023 12:38:08.0	56.9	----	-----	--------	-	-
550	11/09/2023 12:38:09.0	58.1	----	-----	--------	-	-
551	11/09/2023 12:38:10.0	58.8	----	-----	--------	-	-
552	11/09/2023 12:38:11.0	59.7	----	-----	--------	-	-
553	11/09/2023 12:38:12.0	59.1	----	-----	--------	-	-
554	11/09/2023 12:38:13.0	58.7	----	-----	--------	-	-
555	11/09/2023 12:38:14.0	57.9	----	-----	--------	-	-
556	11/09/2023 12:38:15.0	56.6	----	-----	--------	-	-
557	11/09/2023 12:38:16.0	57.1	----	-----	--------	-	-
558	11/09/2023 12:38:17.0	57.5	----	-----	--------	-	-
559	11/09/2023 12:38:18.0	57.4	----	-----	--------	-	-
560	11/09/2023 12:38:19.0	57.7	----	-----	--------	-	-
561	11/09/2023 12:38:20.0	57.3	----	-----	--------	-	-

562	11/09/2023 12:38:21.0	57	----	-----	--------	-	-
563	11/09/2023 12:38:22.0	56.6	----	-----	--------	-	-
564	11/09/2023 12:38:23.0	56.9	----	-----	--------	-	-
565	11/09/2023 12:38:24.0	57.7	----	-----	--------	-	-
566	11/09/2023 12:38:25.0	57.3	----	-----	--------	-	-
567	11/09/2023 12:38:26.0	57.1	----	-----	--------	-	-
568	11/09/2023 12:38:27.0	57.5	----	-----	--------	-	-
569	11/09/2023 12:38:28.0	57.8	----	-----	--------	-	-
570	11/09/2023 12:38:29.0	57.4	----	-----	--------	-	-
571	11/09/2023 12:38:30.0	57.5	----	-----	--------	-	-
572	11/09/2023 12:38:31.0	57.8	----	-----	--------	-	-
573	11/09/2023 12:38:32.0	57.8	----	-----	--------	-	-
574	11/09/2023 12:38:33.0	57.7	----	-----	--------	-	-
575	11/09/2023 12:38:34.0	58	----	-----	--------	-	-
576	11/09/2023 12:38:35.0	57.1	----	-----	--------	-	-
577	11/09/2023 12:38:36.0	56.7	----	-----	--------	-	-
578	11/09/2023 12:38:37.0	57.1	----	-----	--------	-	-
579	11/09/2023 12:38:38.0	57	----	-----	--------	-	-
580	11/09/2023 12:38:39.0	57.2	----	-----	--------	-	-
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584	11/09/2023 12:38:43.0	56.9	----	-----	--------	-	-
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586	11/09/2023 12:38:45.0	57.7	----	-----	--------	-	-
587	11/09/2023 12:38:46.0	57.4	----	-----	--------	-	-
588	11/09/2023 12:38:47.0	56.2	----	-----	--------	-	-
589	11/09/2023 12:38:48.0	56.5	----	-----	--------	-	-
590	11/09/2023 12:38:49.0	57	----	-----	--------	-	-
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592	11/09/2023 12:38:51.0	57.2	----	-----	--------	-	-
593	11/09/2023 12:38:52.0	57.7	----	-----	--------	-	-
594	11/09/2023 12:38:53.0	57.6	----	-----	--------	-	-
595	11/09/2023 12:38:54.0	62.2	----	-----	--------	-	-
596	11/09/2023 12:38:55.0	71.1	----	-----	--------	-	-
597	11/09/2023 12:38:56.0	75.6	----	-----	--------	-	-
598	11/09/2023 12:38:57.0	73.7	----	-----	--------	-	-
599	11/09/2023 12:38:58.0	65.9	----	-----	--------	-	-
600	11/09/2023 12:38:59.0	61.1	----	-----	--------	-	-
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602	11/09/2023 12:39:01.0	57.4	----	-----	--------	-	-
603	11/09/2023 12:39:02.0	57.3	----	-----	--------	-	-
604	11/09/2023 12:39:03.0	56.8	----	-----	--------	-	-
605	11/09/2023 12:39:04.0	55.9	----	-----	--------	-	-
606	11/09/2023 12:39:05.0	56	----	-----	--------	-	-
607	11/09/2023 12:39:06.0	56.7	----	-----	--------	-	-
608	11/09/2023 12:39:07.0	56.5	----	-----	--------	-	-

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610	11/09/2023 12:39:09.0	56.6	----	-----	--------	-	-
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612	11/09/2023 12:39:11.0	56.9	----	-----	--------	-	-
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614	11/09/2023 12:39:13.0	56.6	----	-----	--------	-	-
615	11/09/2023 12:39:14.0	56.2	----	-----	--------	-	-
616	11/09/2023 12:39:15.0	57.5	----	-----	--------	-	-
617	11/09/2023 12:39:16.0	57.7	----	-----	--------	-	-
618	11/09/2023 12:39:17.0	58.4	----	-----	--------	-	-
619	11/09/2023 12:39:18.0	57.4	----	-----	--------	-	-
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621	11/09/2023 12:39:20.0	58.6	----	-----	--------	-	-
622	11/09/2023 12:39:21.0	62.2	----	-----	--------	-	-
623	11/09/2023 12:39:22.0	69.6	----	-----	--------	-	-
624	11/09/2023 12:39:23.0	73.9	----	-----	--------	-	-
625	11/09/2023 12:39:24.0	68	----	-----	--------	-	-
626	11/09/2023 12:39:25.0	63.4	----	-----	--------	-	-
627	11/09/2023 12:39:26.0	59.9	----	-----	--------	-	-
628	11/09/2023 12:39:27.0	57.6	----	-----	--------	-	-
629	11/09/2023 12:39:28.0	56.9	----	-----	--------	-	-
630	11/09/2023 12:39:29.0	57.3	----	-----	--------	-	-
631	11/09/2023 12:39:30.0	57.4	----	-----	--------	-	-
632	11/09/2023 12:39:31.0	57.5	----	-----	--------	-	-
633	11/09/2023 12:39:32.0	57.5	----	-----	--------	-	-
634	11/09/2023 12:39:33.0	57.2	----	-----	--------	-	-
635	11/09/2023 12:39:34.0	56.9	----	-----	--------	-	-
636	11/09/2023 12:39:35.0	55.8	----	-----	--------	-	-
637	11/09/2023 12:39:36.0	55.9	----	-----	--------	-	-
638	11/09/2023 12:39:37.0	56.5	----	-----	--------	-	-
639	11/09/2023 12:39:38.0	58.8	----	-----	--------	-	-
640	11/09/2023 12:39:39.0	64.3	----	-----	--------	-	-
641	11/09/2023 12:39:40.0	72.3	----	-----	--------	-	-
642	11/09/2023 12:39:41.0	71.9	----	-----	--------	-	-
643	11/09/2023 12:39:42.0	64.8	----	-----	--------	-	-
644	11/09/2023 12:39:43.0	59.8	----	-----	--------	-	-
645	11/09/2023 12:39:44.0	58.7	----	-----	--------	-	-
646	11/09/2023 12:39:45.0	57.2	----	-----	--------	-	-
647	11/09/2023 12:39:46.0	57.2	----	-----	--------	-	-
648	11/09/2023 12:39:47.0	57.8	----	-----	--------	-	-
649	11/09/2023 12:39:48.0	57.3	----	-----	--------	-	-
650	11/09/2023 12:39:49.0	56.8	----	-----	--------	-	-
651	11/09/2023 12:39:50.0	56.9	----	-----	--------	-	-
652	11/09/2023 12:39:51.0	57.3	----	-----	--------	-	-
653	11/09/2023 12:39:52.0	57.4	----	-----	--------	-	-
654	11/09/2023 12:39:53.0	57.9	----	-----	--------	-	-
655	11/09/2023 12:39:54.0	57.6	----	-----	--------	-	-

656	11/09/2023 12:39:55.0	56.1	----	-----	--------	-	-
657	11/09/2023 12:39:56.0	56.5	----	-----	--------	-	-
658	11/09/2023 12:39:57.0	56.4	----	-----	--------	-	-
659	11/09/2023 12:39:58.0	56.7	----	-----	--------	-	-
660	11/09/2023 12:39:59.0	56.8	----	-----	--------	-	-
661	11/09/2023 12:40:00.0	56.4	----	-----	--------	-	-
662	11/09/2023 12:40:01.0	56.1	----	-----	--------	-	-
663	11/09/2023 12:40:02.0	56.5	----	-----	--------	-	-
664	11/09/2023 12:40:03.0	57.1	----	-----	--------	-	-
665	11/09/2023 12:40:04.0	57.1	----	-----	--------	-	-
666	11/09/2023 12:40:05.0	56.7	----	-----	--------	-	-
667	11/09/2023 12:40:06.0	56.9	----	-----	--------	-	-
668	11/09/2023 12:40:07.0	57.2	----	-----	--------	-	-
669	11/09/2023 12:40:08.0	56.7	----	-----	--------	-	-
670	11/09/2023 12:40:09.0	56.8	----	-----	--------	-	-
671	11/09/2023 12:40:10.0	56.8	----	-----	--------	-	-
672	11/09/2023 12:40:11.0	56.2	----	-----	--------	-	-
673	11/09/2023 12:40:12.0	56.1	----	-----	--------	-	-
674	11/09/2023 12:40:13.0	56.2	----	-----	--------	-	-
675	11/09/2023 12:40:14.0	56.1	----	-----	--------	-	-
676	11/09/2023 12:40:15.0	56.2	----	-----	--------	-	-
677	11/09/2023 12:40:16.0	57.5	----	-----	--------	-	-
678	11/09/2023 12:40:17.0	57	----	-----	--------	-	-
679	11/09/2023 12:40:18.0	57.2	----	-----	--------	-	-
680	11/09/2023 12:40:19.0	58.3	----	-----	--------	-	-
681	11/09/2023 12:40:20.0	58.5	----	-----	--------	-	-
682	11/09/2023 12:40:21.0	59.9	----	-----	--------	-	-
683	11/09/2023 12:40:22.0	59.5	----	-----	--------	-	-
684	11/09/2023 12:40:23.0	59.5	----	-----	--------	-	-
685	11/09/2023 12:40:24.0	58.9	----	-----	--------	-	-
686	11/09/2023 12:40:25.0	57.9	----	-----	--------	-	-
687	11/09/2023 12:40:26.0	57.9	----	-----	--------	-	-
688	11/09/2023 12:40:27.0	58.5	----	-----	--------	-	-
689	11/09/2023 12:40:28.0	59.7	----	-----	--------	-	-
690	11/09/2023 12:40:29.0	66.6	----	-----	--------	-	-
691	11/09/2023 12:40:30.0	74	----	-----	--------	-	-
692	11/09/2023 12:40:31.0	75.6	----	-----	--------	-	-
693	11/09/2023 12:40:32.0	75.9	----	-----	--------	-	-
694	11/09/2023 12:40:33.0	73.3	----	-----	--------	-	-
695	11/09/2023 12:40:34.0	69.7	----	-----	--------	-	-
696	11/09/2023 12:40:35.0	70.1	----	-----	--------	-	-
697	11/09/2023 12:40:36.0	64.9	----	-----	--------	-	-
698	11/09/2023 12:40:37.0	63.8	----	-----	--------	-	-
699	11/09/2023 12:40:38.0	62.9	----	-----	--------	-	-
700	11/09/2023 12:40:39.0	62.2	----	-----	--------	-	-
701	11/09/2023 12:40:40.0	60.9	----	-----	--------	-	-
702	11/09/2023 12:40:41.0	60.2	----	-----	--------	-	-

703	11/09/2023 12:40:42.0	60.9	----	-----	--------	-	-
704	11/09/2023 12:40:43.0	60.6	----	-----	--------	-	-
705	11/09/2023 12:40:44.0	59.7	----	-----	--------	-	-
706	11/09/2023 12:40:45.0	58.4	----	-----	--------	-	-
707	11/09/2023 12:40:46.0	58.6	----	-----	--------	-	-
708	11/09/2023 12:40:47.0	58.5	----	-----	--------	-	-
709	11/09/2023 12:40:48.0	59.7	----	-----	--------	-	-
710	11/09/2023 12:40:49.0	59.4	----	-----	--------	-	-
711	11/09/2023 12:40:50.0	58.9	----	-----	--------	-	-
712	11/09/2023 12:40:51.0	59.1	----	-----	--------	-	-
713	11/09/2023 12:40:52.0	58.7	----	-----	--------	-	-
714	11/09/2023 12:40:53.0	58.7	----	-----	--------	-	-
715	11/09/2023 12:40:54.0	59.1	----	-----	--------	-	-
716	11/09/2023 12:40:55.0	59.4	----	-----	--------	-	-
717	11/09/2023 12:40:56.0	59.3	----	-----	--------	-	-
718	11/09/2023 12:40:57.0	58.7	----	-----	--------	-	-
719	11/09/2023 12:40:58.0	58.6	----	-----	--------	-	-
720	11/09/2023 12:40:59.0	59.1	----	-----	--------	-	-
721	11/09/2023 12:41:00.0	58.9	----	-----	--------	-	-
722	11/09/2023 12:41:01.0	58.6	----	-----	--------	-	-
723	11/09/2023 12:41:02.0	58.8	----	-----	--------	-	-
724	11/09/2023 12:41:03.0	59	----	-----	--------	-	-
725	11/09/2023 12:41:04.0	58	----	-----	--------	-	-
726	11/09/2023 12:41:05.0	58.1	----	-----	--------	-	-
727	11/09/2023 12:41:06.0	58.1	----	-----	--------	-	-
728	11/09/2023 12:41:07.0	57.6	----	-----	--------	-	-
729	11/09/2023 12:41:08.0	57.6	----	-----	--------	-	-
730	11/09/2023 12:41:09.0	57.1	----	-----	--------	-	-
731	11/09/2023 12:41:10.0	56.7	----	-----	--------	-	-
732	11/09/2023 12:41:11.0	57.7	----	-----	--------	-	-
733	11/09/2023 12:41:12.0	57.4	----	-----	--------	-	-
734	11/09/2023 12:41:13.0	57.5	----	-----	--------	-	-
735	11/09/2023 12:41:14.0	57.9	----	-----	--------	-	-
736	11/09/2023 12:41:15.0	57.7	----	-----	--------	-	-
737	11/09/2023 12:41:16.0	57.8	----	-----	--------	-	-
738	11/09/2023 12:41:17.0	57.2	----	-----	--------	-	-
739	11/09/2023 12:41:18.0	56.6	----	-----	--------	-	-
740	11/09/2023 12:41:19.0	56.7	----	-----	--------	-	-
741	11/09/2023 12:41:20.0	56.5	----	-----	--------	-	-
742	11/09/2023 12:41:21.0	59.2	----	-----	--------	-	-
743	11/09/2023 12:41:22.0	60.1	----	-----	--------	-	-
744	11/09/2023 12:41:23.0	57.8	----	-----	--------	-	-
745	11/09/2023 12:41:24.0	57.3	----	-----	--------	-	-
746	11/09/2023 12:41:25.0	56.6	----	-----	--------	-	-
747	11/09/2023 12:41:26.0	56.8	----	-----	--------	-	-
748	11/09/2023 12:41:27.0	57	----	-----	--------	-	-
749	11/09/2023 12:41:28.0	56.8	----	-----	--------	-	-

750	11/09/2023 12:41:29.0	56.4	----	-----	--------	-	-
751	11/09/2023 12:41:30.0	56.6	----	-----	--------	-	-
752	11/09/2023 12:41:31.0	56.3	----	-----	--------	-	-
753	11/09/2023 12:41:32.0	56.3	----	-----	--------	-	-
754	11/09/2023 12:41:33.0	57.2	----	-----	--------	-	-
755	11/09/2023 12:41:34.0	57.7	----	-----	--------	-	-
756	11/09/2023 12:41:35.0	57.4	----	-----	--------	-	-
757	11/09/2023 12:41:36.0	57.3	----	-----	--------	-	-
758	11/09/2023 12:41:37.0	57.8	----	-----	--------	-	-
759	11/09/2023 12:41:38.0	58.3	----	-----	--------	-	-
760	11/09/2023 12:41:39.0	57.1	----	-----	--------	-	-
761	11/09/2023 12:41:40.0	56.3	----	-----	--------	-	-
762	11/09/2023 12:41:41.0	55.8	----	-----	--------	-	-
763	11/09/2023 12:41:42.0	55.4	----	-----	--------	-	-
764	11/09/2023 12:41:43.0	56.4	----	-----	--------	-	-
765	11/09/2023 12:41:44.0	55.9	----	-----	--------	-	-
766	11/09/2023 12:41:45.0	55.9	----	-----	--------	-	-
767	11/09/2023 12:41:46.0	55.5	----	-----	--------	-	-
768	11/09/2023 12:41:47.0	55.3	----	-----	--------	-	-
769	11/09/2023 12:41:48.0	55.5	----	-----	--------	-	-
770	11/09/2023 12:41:49.0	55.1	----	-----	--------	-	-
771	11/09/2023 12:41:50.0	55.4	----	-----	--------	-	-
772	11/09/2023 12:41:51.0	55.2	----	-----	--------	-	-
773	11/09/2023 12:41:52.0	55.3	----	-----	--------	-	-
774	11/09/2023 12:41:53.0	56.9	----	-----	--------	-	-
775	11/09/2023 12:41:54.0	56.3	----	-----	--------	-	-
776	11/09/2023 12:41:55.0	58.1	----	-----	--------	-	-
777	11/09/2023 12:41:56.0	58.5	----	-----	--------	-	-
778	11/09/2023 12:41:57.0	57	----	-----	--------	-	-
779	11/09/2023 12:41:58.0	57.6	----	-----	--------	-	-
780	11/09/2023 12:41:59.0	59.9	----	-----	--------	-	-
781	11/09/2023 12:42:00.0	58.5	----	-----	--------	-	-
782	11/09/2023 12:42:01.0	57.9	----	-----	--------	-	-
783	11/09/2023 12:42:02.0	57.6	----	-----	--------	-	-
784	11/09/2023 12:42:03.0	57.6	----	-----	--------	-	-
785	11/09/2023 12:42:04.0	57.1	----	-----	--------	-	-
786	11/09/2023 12:42:05.0	57.5	----	-----	--------	-	-
787	11/09/2023 12:42:06.0	57.5	----	-----	--------	-	-
788	11/09/2023 12:42:07.0	57.7	----	-----	--------	-	-
789	11/09/2023 12:42:08.0	56.9	----	-----	--------	-	-
790	11/09/2023 12:42:09.0	58	----	-----	--------	-	-
791	11/09/2023 12:42:10.0	59	----	-----	--------	-	-
792	11/09/2023 12:42:11.0	58.7	----	-----	--------	-	-
793	11/09/2023 12:42:12.0	58.7	----	-----	--------	-	-
794	11/09/2023 12:42:13.0	57.9	----	-----	--------	-	-
795	11/09/2023 12:42:14.0	57	----	-----	--------	-	-
796	11/09/2023 12:42:15.0	57	----	-----	--------	-	-

797	11/09/2023 12:42:16.0	57.3	----	-----	--------	-	-
798	11/09/2023 12:42:17.0	56.4	----	-----	--------	-	-
799	11/09/2023 12:42:18.0	56.4	----	-----	--------	-	-
800	11/09/2023 12:42:19.0	57	----	-----	--------	-	-
801	11/09/2023 12:42:20.0	57.6	----	-----	--------	-	-
802	11/09/2023 12:42:21.0	57.9	----	-----	--------	-	-
803	11/09/2023 12:42:22.0	57.5	----	-----	--------	-	-
804	11/09/2023 12:42:23.0	57.9	----	-----	--------	-	-
805	11/09/2023 12:42:24.0	58.9	----	-----	--------	-	-
806	11/09/2023 12:42:25.0	57.6	----	-----	--------	-	-
807	11/09/2023 12:42:26.0	57.8	----	-----	--------	-	-
808	11/09/2023 12:42:27.0	57.7	----	-----	--------	-	-
809	11/09/2023 12:42:28.0	58.6	----	-----	--------	-	-
810	11/09/2023 12:42:29.0	56.7	----	-----	--------	-	-
811	11/09/2023 12:42:30.0	55.9	----	-----	--------	-	-
812	11/09/2023 12:42:31.0	55.4	----	-----	--------	-	-
813	11/09/2023 12:42:32.0	55.1	----	-----	--------	-	-
814	11/09/2023 12:42:33.0	55.1	----	-----	--------	-	-
815	11/09/2023 12:42:34.0	55.7	----	-----	--------	-	-
816	11/09/2023 12:42:35.0	55.6	----	-----	--------	-	-
817	11/09/2023 12:42:36.0	55.8	----	-----	--------	-	-
818	11/09/2023 12:42:37.0	54.6	----	-----	--------	-	-
819	11/09/2023 12:42:38.0	55.2	----	-----	--------	-	-
820	11/09/2023 12:42:39.0	55.7	----	-----	--------	-	-
821	11/09/2023 12:42:40.0	56.9	----	-----	--------	-	-
822	11/09/2023 12:42:41.0	56.3	----	-----	--------	-	-
823	11/09/2023 12:42:42.0	56.7	----	-----	--------	-	-
824	11/09/2023 12:42:43.0	56.7	----	-----	--------	-	-
825	11/09/2023 12:42:44.0	58.5	----	-----	--------	-	-
826	11/09/2023 12:42:45.0	62.5	----	-----	--------	-	-
827	11/09/2023 12:42:46.0	58.8	----	-----	--------	-	-
828	11/09/2023 12:42:47.0	58.8	----	-----	--------	-	-
829	11/09/2023 12:42:48.0	59.1	----	-----	--------	-	-
830	11/09/2023 12:42:49.0	59.7	----	-----	--------	-	-
831	11/09/2023 12:42:50.0	57.9	----	-----	--------	-	-
832	11/09/2023 12:42:51.0	56.7	----	-----	--------	-	-
833	11/09/2023 12:42:52.0	56.9	----	-----	--------	-	-
834	11/09/2023 12:42:53.0	56.1	----	-----	--------	-	-
835	11/09/2023 12:42:54.0	55.2	----	-----	--------	-	-
836	11/09/2023 12:42:55.0	54.7	----	-----	--------	-	-
837	11/09/2023 12:42:56.0	56	----	-----	--------	-	-
838	11/09/2023 12:42:57.0	57.4	----	-----	--------	-	-
839	11/09/2023 12:42:58.0	56.8	----	-----	--------	-	-
840	11/09/2023 12:42:59.0	56.1	----	-----	--------	-	-
841	11/09/2023 12:43:00.0	56.1	----	-----	--------	-	-
842	11/09/2023 12:43:01.0	57.7	----	-----	--------	-	-
843	11/09/2023 12:43:02.0	57.8	----	-----	--------	-	-

844	11/09/2023 12:43:03.0	56.9	----	-----	--------	-	-
845	11/09/2023 12:43:04.0	57.4	----	-----	--------	-	-
846	11/09/2023 12:43:05.0	57.3	----	-----	--------	-	-
847	11/09/2023 12:43:06.0	57.5	----	-----	--------	-	-
848	11/09/2023 12:43:07.0	57.7	----	-----	--------	-	-
849	11/09/2023 12:43:08.0	56.9	----	-----	--------	-	-
850	11/09/2023 12:43:09.0	56.9	----	-----	--------	-	-
851	11/09/2023 12:43:10.0	57.3	----	-----	--------	-	-
852	11/09/2023 12:43:11.0	58.6	----	-----	--------	-	-
853	11/09/2023 12:43:12.0	62.6	----	-----	--------	-	-
854	11/09/2023 12:43:13.0	67.5	----	-----	--------	-	-
855	11/09/2023 12:43:14.0	76.1	----	-----	--------	-	-
856	11/09/2023 12:43:15.0	73.7	----	-----	--------	-	-
857	11/09/2023 12:43:16.0	67	----	-----	--------	-	-
858	11/09/2023 12:43:17.0	63.1	----	-----	--------	-	-
859	11/09/2023 12:43:18.0	59.4	----	-----	--------	-	-
860	11/09/2023 12:43:19.0	58.4	----	-----	--------	-	-
861	11/09/2023 12:43:20.0	58.5	----	-----	--------	-	-
862	11/09/2023 12:43:21.0	58.6	----	-----	--------	-	-
863	11/09/2023 12:43:22.0	58.5	----	-----	--------	-	-
864	11/09/2023 12:43:23.0	59.4	----	-----	--------	-	-
865	11/09/2023 12:43:24.0	59.7	----	-----	--------	-	-
866	11/09/2023 12:43:25.0	62.7	----	-----	--------	-	-
867	11/09/2023 12:43:26.0	70.6	----	-----	--------	-	-
868	11/09/2023 12:43:27.0	76.4	----	-----	--------	-	-
869	11/09/2023 12:43:28.0	75.3	----	-----	--------	-	-
870	11/09/2023 12:43:29.0	68.5	----	-----	--------	-	-
871	11/09/2023 12:43:30.0	63	----	-----	--------	-	-
872	11/09/2023 12:43:31.0	60.6	----	-----	--------	-	-
873	11/09/2023 12:43:32.0	61	----	-----	--------	-	-
874	11/09/2023 12:43:33.0	59.8	----	-----	--------	-	-
875	11/09/2023 12:43:34.0	59.5	----	-----	--------	-	-
876	11/09/2023 12:43:35.0	59	----	-----	--------	-	-
877	11/09/2023 12:43:36.0	58.2	----	-----	--------	-	-
878	11/09/2023 12:43:37.0	58.2	----	-----	--------	-	-
879	11/09/2023 12:43:38.0	59.3	----	-----	--------	-	-
880	11/09/2023 12:43:39.0	60.3	----	-----	--------	-	-
881	11/09/2023 12:43:40.0	59.2	----	-----	--------	-	-
882	11/09/2023 12:43:41.0	57.6	----	-----	--------	-	-
883	11/09/2023 12:43:42.0	58.5	----	-----	--------	-	-
884	11/09/2023 12:43:43.0	57.7	----	-----	--------	-	-
885	11/09/2023 12:43:44.0	58.4	----	-----	--------	-	-
886	11/09/2023 12:43:45.0	57.8	----	-----	--------	-	-
887	11/09/2023 12:43:46.0	57.8	----	-----	--------	-	-
888	11/09/2023 12:43:47.0	59	----	-----	--------	-	-
889	11/09/2023 12:43:48.0	60.4	----	-----	--------	-	-
890	11/09/2023 12:43:49.0	62.8	----	-----	--------	-	-

891	11/09/2023 12:43:50.0	67.2	----	-----	--------	-	-
892	11/09/2023 12:43:51.0	75.2	----	-----	--------	-	-
893	11/09/2023 12:43:52.0	80.5	----	-----	--------	-	-
894	11/09/2023 12:43:53.0	76.1	----	-----	--------	-	-
895	11/09/2023 12:43:54.0	69.3	----	-----	--------	-	-
896	11/09/2023 12:43:55.0	61.6	----	-----	--------	-	-
897	11/09/2023 12:43:56.0	60.5	----	-----	--------	-	-
898	11/09/2023 12:43:57.0	58.5	----	-----	--------	-	-
899	11/09/2023 12:43:58.0	56.9	----	-----	--------	-	-
900	11/09/2023 12:43:59.0	56.8	----	-----	--------	-	-

ST1

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	9/11/2023 12:29	00d 00:15:	64.5	92.1	76.8	54.9	-.-	64.3	56.4	59.7	58.1	55.9	----	-----

ST2

Address	Start Time	Leq	Over	Under	Output Ov	Marker 1	Marker 2
1	15/09/2023 12:09:00.0	58.8	----	-----	--------	-	-
2	15/09/2023 12:09:01.0	58.4	----	-----	--------	-	-
3	15/09/2023 12:09:02.0	58	----	-----	--------	-	-
4	15/09/2023 12:09:03.0	57.2	----	-----	--------	-	-
5	15/09/2023 12:09:04.0	56.2	----	-----	--------	-	-
6	15/09/2023 12:09:05.0	55.7	----	-----	--------	-	-
7	15/09/2023 12:09:06.0	54.9	----	-----	--------	-	-
8	15/09/2023 12:09:07.0	54.9	----	-----	--------	-	-
9	15/09/2023 12:09:08.0	55.1	----	-----	--------	-	-
10	15/09/2023 12:09:09.0	54.7	----	-----	--------	-	-
11	15/09/2023 12:09:10.0	54.8	----	-----	--------	-	-
12	15/09/2023 12:09:11.1	57.8	----	-----	--------	-	-
13	15/09/2023 12:09:12.1	59.1	----	-----	--------	-	-
14	15/09/2023 12:09:13.1	59	----	-----	--------	-	-
15	15/09/2023 12:09:14.1	55.4	----	-----	--------	-	-
16	15/09/2023 12:09:15.1	54.4	----	-----	--------	-	-
17	15/09/2023 12:09:16.1	54	----	-----	--------	-	-
18	15/09/2023 12:09:17.1	53.3	----	-----	--------	-	-
19	15/09/2023 12:09:18.1	52.7	----	-----	--------	-	-
20	15/09/2023 12:09:19.1	53.4	----	-----	--------	-	-
21	15/09/2023 12:09:20.1	53.1	----	-----	--------	-	-
22	15/09/2023 12:09:21.1	53.7	----	-----	--------	-	-
23	15/09/2023 12:09:22.1	53.4	----	-----	--------	-	-
24	15/09/2023 12:09:23.1	53.8	----	-----	--------	-	-
25	15/09/2023 12:09:24.1	52.4	----	-----	--------	-	-
26	15/09/2023 12:09:25.1	52.2	----	-----	--------	-	-
27	15/09/2023 12:09:26.1	52.1	----	-----	--------	-	-
28	15/09/2023 12:09:27.1	52	----	-----	--------	-	-
29	15/09/2023 12:09:28.1	52.3	----	-----	--------	-	-
30	15/09/2023 12:09:29.1	52.1	----	-----	--------	-	-
31	15/09/2023 12:09:30.1	52.3	----	-----	--------	-	-
32	15/09/2023 12:09:31.1	57.6	----	-----	--------	-	-
33	15/09/2023 12:09:32.2	52.2	----	-----	--------	-	-
34	15/09/2023 12:09:33.2	53.1	----	-----	--------	-	-
35	15/09/2023 12:09:34.2	53.4	----	-----	--------	-	-
36	15/09/2023 12:09:35.2	53	----	-----	--------	-	-
37	15/09/2023 12:09:36.2	53.7	----	-----	--------	-	-
38	15/09/2023 12:09:37.2	52.6	----	-----	--------	-	-
39	15/09/2023 12:09:38.2	52.6	----	-----	--------	-	-
40	15/09/2023 12:09:39.2	53.1	----	-----	--------	-	-
41	15/09/2023 12:09:40.2	53	----	-----	--------	-	-
42	15/09/2023 12:09:41.2	54.1	----	-----	--------	-	-
43	15/09/2023 12:09:42.2	54.4	----	-----	--------	-	-
44	15/09/2023 12:09:43.2	54.9	----	-----	--------	-	-

45	15/09/2023 12:09:44.2	55.5	----	-----	--------	-	-
46	15/09/2023 12:09:45.2	55.2	----	-----	--------	-	-
47	15/09/2023 12:09:46.2	57.6	----	-----	--------	-	-
48	15/09/2023 12:09:47.2	55.6	----	-----	--------	-	-
49	15/09/2023 12:09:48.2	56.2	----	-----	--------	-	-
50	15/09/2023 12:09:49.2	53.3	----	-----	--------	-	-
51	15/09/2023 12:09:50.2	54	----	-----	--------	-	-
52	15/09/2023 12:09:51.2	51	----	-----	--------	-	-
53	15/09/2023 12:09:52.3	51.7	----	-----	--------	-	-
54	15/09/2023 12:09:53.3	50.8	----	-----	--------	-	-
55	15/09/2023 12:09:54.3	51.7	----	-----	--------	-	-
56	15/09/2023 12:09:55.3	51.6	----	-----	--------	-	-
57	15/09/2023 12:09:56.3	52.4	----	-----	--------	-	-
58	15/09/2023 12:09:57.3	52.8	----	-----	--------	-	-
59	15/09/2023 12:09:58.3	52	----	-----	--------	-	-
60	15/09/2023 12:09:59.3	53	----	-----	--------	-	-
61	15/09/2023 12:10:00.3	52.4	----	-----	--------	-	-
62	15/09/2023 12:10:01.3	52.5	----	-----	--------	-	-
63	15/09/2023 12:10:02.3	51.5	----	-----	--------	-	-
64	15/09/2023 12:10:03.3	51.8	----	-----	--------	-	-
65	15/09/2023 12:10:04.3	51.3	----	-----	--------	-	-
66	15/09/2023 12:10:05.3	52.2	----	-----	--------	-	-
67	15/09/2023 12:10:06.3	53.9	----	-----	--------	-	-
68	15/09/2023 12:10:07.3	53.4	----	-----	--------	-	-
69	15/09/2023 12:10:08.3	52.4	----	-----	--------	-	-
70	15/09/2023 12:10:09.3	52.3	----	-----	--------	-	-
71	15/09/2023 12:10:10.3	56	----	-----	--------	-	-
72	15/09/2023 12:10:11.3	55.6	----	-----	--------	-	-
73	15/09/2023 12:10:12.4	54.5	----	-----	--------	-	-
74	15/09/2023 12:10:13.4	54	----	-----	--------	-	-
75	15/09/2023 12:10:14.4	52.4	----	-----	--------	-	-
76	15/09/2023 12:10:15.4	53	----	-----	--------	-	-
77	15/09/2023 12:10:16.4	51.5	----	-----	--------	-	-
78	15/09/2023 12:10:17.4	51.6	----	-----	--------	-	-
79	15/09/2023 12:10:18.4	51.8	----	-----	--------	-	-
80	15/09/2023 12:10:19.4	51.3	----	-----	--------	-	-
81	15/09/2023 12:10:20.4	50.8	----	-----	--------	-	-
82	15/09/2023 12:10:21.4	51.3	----	-----	--------	-	-
83	15/09/2023 12:10:22.4	51.9	----	-----	--------	-	-
84	15/09/2023 12:10:23.4	51.4	----	-----	--------	-	-
85	15/09/2023 12:10:24.4	50.6	----	-----	--------	-	-
86	15/09/2023 12:10:25.4	50.4	----	-----	--------	-	-
87	15/09/2023 12:10:26.4	50.4	----	-----	--------	-	-
88	15/09/2023 12:10:27.4	51.1	----	-----	--------	-	-
89	15/09/2023 12:10:28.4	50.8	----	-----	--------	-	-
90	15/09/2023 12:10:29.4	50.9	----	-----	--------	-	-
91	15/09/2023 12:10:30.4	51.7	----	-----	--------	-	-

92	15/09/2023 12:10:31.4	52.2	----	-----	--------	-	-
93	15/09/2023 12:10:32.5	54	----	-----	--------	-	-
94	15/09/2023 12:10:33.5	55.6	----	-----	--------	-	-
95	15/09/2023 12:10:34.5	54.2	----	-----	--------	-	-
96	15/09/2023 12:10:35.5	53.6	----	-----	--------	-	-
97	15/09/2023 12:10:36.5	51.3	----	-----	--------	-	-
98	15/09/2023 12:10:37.5	50.5	----	-----	--------	-	-
99	15/09/2023 12:10:38.5	50.2	----	-----	--------	-	-
100	15/09/2023 12:10:39.5	50.3	----	-----	--------	-	-
101	15/09/2023 12:10:40.5	52.2	----	-----	--------	-	-
102	15/09/2023 12:10:41.5	55.4	----	-----	--------	-	-
103	15/09/2023 12:10:42.5	51.2	----	-----	--------	-	-
104	15/09/2023 12:10:43.5	53.8	----	-----	--------	-	-
105	15/09/2023 12:10:44.5	52.4	----	-----	--------	-	-
106	15/09/2023 12:10:45.5	51.9	----	-----	--------	-	-
107	15/09/2023 12:10:46.5	51.4	----	-----	--------	-	-
108	15/09/2023 12:10:47.5	51.7	----	-----	--------	-	-
109	15/09/2023 12:10:48.5	52.6	----	-----	--------	-	-
110	15/09/2023 12:10:49.5	51.9	----	-----	--------	-	-
111	15/09/2023 12:10:50.5	51.7	----	-----	--------	-	-
112	15/09/2023 12:10:51.5	52.4	----	-----	--------	-	-
113	15/09/2023 12:10:52.6	53.9	----	-----	--------	-	-
114	15/09/2023 12:10:53.6	53.4	----	-----	--------	-	-
115	15/09/2023 12:10:54.6	53.3	----	-----	--------	-	-
116	15/09/2023 12:10:55.6	53	----	-----	--------	-	-
117	15/09/2023 12:10:56.6	51.9	----	-----	--------	-	-
118	15/09/2023 12:10:57.6	58.3	----	-----	--------	-	-
119	15/09/2023 12:10:58.6	52.2	----	-----	--------	-	-
120	15/09/2023 12:10:59.6	52.6	----	-----	--------	-	-
121	15/09/2023 12:11:00.6	52.4	----	-----	--------	-	-
122	15/09/2023 12:11:01.6	52.4	----	-----	--------	-	-
123	15/09/2023 12:11:02.6	54.3	----	-----	--------	-	-
124	15/09/2023 12:11:03.6	54.1	----	-----	--------	-	-
125	15/09/2023 12:11:04.6	54.1	----	-----	--------	-	-
126	15/09/2023 12:11:05.6	52	----	-----	--------	-	-
127	15/09/2023 12:11:06.6	51.3	----	-----	--------	-	-
128	15/09/2023 12:11:07.6	54.2	----	-----	--------	-	-
129	15/09/2023 12:11:08.6	52	----	-----	--------	-	-
130	15/09/2023 12:11:09.6	52.3	----	-----	--------	-	-
131	15/09/2023 12:11:10.6	51.6	----	-----	--------	-	-
132	15/09/2023 12:11:11.6	52.1	----	-----	--------	-	-
133	15/09/2023 12:11:12.7	52.6	----	-----	--------	-	-
134	15/09/2023 12:11:13.7	52.6	----	-----	--------	-	-
135	15/09/2023 12:11:14.7	52.2	----	-----	--------	-	-
136	15/09/2023 12:11:15.7	52.1	----	-----	--------	-	-
137	15/09/2023 12:11:16.7	52.2	----	-----	--------	-	-
138	15/09/2023 12:11:17.7	52.5	----	-----	--------	-	-

139	15/09/2023 12:11:18.7	52.7	----	-----	--------	-	-
140	15/09/2023 12:11:19.7	51.6	----	-----	--------	-	-
141	15/09/2023 12:11:20.7	51.6	----	-----	--------	-	-
142	15/09/2023 12:11:21.7	52.2	----	-----	--------	-	-
143	15/09/2023 12:11:22.7	52.2	----	-----	--------	-	-
144	15/09/2023 12:11:23.7	51.9	----	-----	--------	-	-
145	15/09/2023 12:11:24.7	52.6	----	-----	--------	-	-
146	15/09/2023 12:11:25.7	52.8	----	-----	--------	-	-
147	15/09/2023 12:11:26.7	53	----	-----	--------	-	-
148	15/09/2023 12:11:27.7	52.3	----	-----	--------	-	-
149	15/09/2023 12:11:28.7	52.6	----	-----	--------	-	-
150	15/09/2023 12:11:29.7	52.5	----	-----	--------	-	-
151	15/09/2023 12:11:30.7	51.8	----	-----	--------	-	-
152	15/09/2023 12:11:31.8	51.7	----	-----	--------	-	-
153	15/09/2023 12:11:32.8	51.3	----	-----	--------	-	-
154	15/09/2023 12:11:33.8	51.3	----	-----	--------	-	-
155	15/09/2023 12:11:34.8	51.6	----	-----	--------	-	-
156	15/09/2023 12:11:35.8	51.8	----	-----	--------	-	-
157	15/09/2023 12:11:36.8	51.9	----	-----	--------	-	-
158	15/09/2023 12:11:37.8	52	----	-----	--------	-	-
159	15/09/2023 12:11:38.8	52.4	----	-----	--------	-	-
160	15/09/2023 12:11:39.8	52.2	----	-----	--------	-	-
161	15/09/2023 12:11:40.8	51.5	----	-----	--------	-	-
162	15/09/2023 12:11:41.8	51.5	----	-----	--------	-	-
163	15/09/2023 12:11:42.8	51.4	----	-----	--------	-	-
164	15/09/2023 12:11:43.8	51.3	----	-----	--------	-	-
165	15/09/2023 12:11:44.8	51.1	----	-----	--------	-	-
166	15/09/2023 12:11:45.8	51.6	----	-----	--------	-	-
167	15/09/2023 12:11:46.8	51.4	----	-----	--------	-	-
168	15/09/2023 12:11:47.8	51.5	----	-----	--------	-	-
169	15/09/2023 12:11:48.8	51.8	----	-----	--------	-	-
170	15/09/2023 12:11:49.8	51.7	----	-----	--------	-	-
171	15/09/2023 12:11:50.8	52	----	-----	--------	-	-
172	15/09/2023 12:11:51.8	52.8	----	-----	--------	-	-
173	15/09/2023 12:11:52.9	52.2	----	-----	--------	-	-
174	15/09/2023 12:11:53.9	51.8	----	-----	--------	-	-
175	15/09/2023 12:11:54.9	52.1	----	-----	--------	-	-
176	15/09/2023 12:11:55.9	52.3	----	-----	--------	-	-
177	15/09/2023 12:11:56.9	52.2	----	-----	--------	-	-
178	15/09/2023 12:11:57.9	52	----	-----	--------	-	-
179	15/09/2023 12:11:58.9	52.3	----	-----	--------	-	-
180	15/09/2023 12:11:59.9	52.1	----	-----	--------	-	-
181	15/09/2023 12:12:00.9	51.8	----	-----	--------	-	-
182	15/09/2023 12:12:01.9	52.1	----	-----	--------	-	-
183	15/09/2023 12:12:02.9	51.9	----	-----	--------	-	-
184	15/09/2023 12:12:03.9	52.2	----	-----	--------	-	-
185	15/09/2023 12:12:04.9	51.8	----	-----	--------	-	-

186	15/09/2023 12:12:05.9	51.5	----	-----	--------	-	-
187	15/09/2023 12:12:06.9	51.4	----	-----	--------	-	-
188	15/09/2023 12:12:07.9	50.6	----	-----	--------	-	-
189	15/09/2023 12:12:08.9	50.8	----	-----	--------	-	-
190	15/09/2023 12:12:09.9	50.8	----	-----	--------	-	-
191	15/09/2023 12:12:10.9	50.6	----	-----	--------	-	-
192	15/09/2023 12:12:11.9	50.7	----	-----	--------	-	-
193	15/09/2023 12:12:13.0	51.3	----	-----	--------	-	-
194	15/09/2023 12:12:14.0	51.9	----	-----	--------	-	-
195	15/09/2023 12:12:15.0	51.5	----	-----	--------	-	-
196	15/09/2023 12:12:16.0	51.2	----	-----	--------	-	-
197	15/09/2023 12:12:17.0	51.2	----	-----	--------	-	-
198	15/09/2023 12:12:18.0	52.1	----	-----	--------	-	-
199	15/09/2023 12:12:19.0	52.1	----	-----	--------	-	-
200	15/09/2023 12:12:20.0	51.8	----	-----	--------	-	-
201	15/09/2023 12:12:21.0	52.3	----	-----	--------	-	-
202	15/09/2023 12:12:22.0	53	----	-----	--------	-	-
203	15/09/2023 12:12:23.0	52.1	----	-----	--------	-	-
204	15/09/2023 12:12:24.0	51.7	----	-----	--------	-	-
205	15/09/2023 12:12:25.0	51.6	----	-----	--------	-	-
206	15/09/2023 12:12:26.0	51.8	----	-----	--------	-	-
207	15/09/2023 12:12:27.0	51.3	----	-----	--------	-	-
208	15/09/2023 12:12:28.0	51.8	----	-----	--------	-	-
209	15/09/2023 12:12:29.0	51.1	----	-----	--------	-	-
210	15/09/2023 12:12:30.0	51.5	----	-----	--------	-	-
211	15/09/2023 12:12:31.0	51.6	----	-----	--------	-	-
212	15/09/2023 12:12:32.0	52	----	-----	--------	-	-
213	15/09/2023 12:12:33.1	51.6	----	-----	--------	-	-
214	15/09/2023 12:12:34.1	51.9	----	-----	--------	-	-
215	15/09/2023 12:12:35.1	51.9	----	-----	--------	-	-
216	15/09/2023 12:12:36.1	52.3	----	-----	--------	-	-
217	15/09/2023 12:12:37.1	52.6	----	-----	--------	-	-
218	15/09/2023 12:12:38.1	52.7	----	-----	--------	-	-
219	15/09/2023 12:12:39.1	53.2	----	-----	--------	-	-
220	15/09/2023 12:12:40.1	53.1	----	-----	--------	-	-
221	15/09/2023 12:12:41.1	53.6	----	-----	--------	-	-
222	15/09/2023 12:12:42.1	52.8	----	-----	--------	-	-
223	15/09/2023 12:12:43.1	52	----	-----	--------	-	-
224	15/09/2023 12:12:44.1	52.1	----	-----	--------	-	-
225	15/09/2023 12:12:45.1	52.4	----	-----	--------	-	-
226	15/09/2023 12:12:46.1	52.4	----	-----	--------	-	-
227	15/09/2023 12:12:47.1	52.9	----	-----	--------	-	-
228	15/09/2023 12:12:48.1	51.5	----	-----	--------	-	-
229	15/09/2023 12:12:49.1	52	----	-----	--------	-	-
230	15/09/2023 12:12:50.1	51.9	----	-----	--------	-	-
231	15/09/2023 12:12:51.1	51.5	----	-----	--------	-	-
232	15/09/2023 12:12:52.1	51.7	----	-----	--------	-	-

233	15/09/2023 12:12:53.2	53	----	-----	--------	-	-
234	15/09/2023 12:12:54.2	52.1	----	-----	--------	-	-
235	15/09/2023 12:12:55.2	52.1	----	-----	--------	-	-
236	15/09/2023 12:12:56.2	51.5	----	-----	--------	-	-
237	15/09/2023 12:12:57.2	52	----	-----	--------	-	-
238	15/09/2023 12:12:58.2	52.4	----	-----	--------	-	-
239	15/09/2023 12:12:59.2	52.6	----	-----	--------	-	-
240	15/09/2023 12:13:00.2	52.2	----	-----	--------	-	-
241	15/09/2023 12:13:01.2	52.7	----	-----	--------	-	-
242	15/09/2023 12:13:02.2	52.4	----	-----	--------	-	-
243	15/09/2023 12:13:03.2	52.4	----	-----	--------	-	-
244	15/09/2023 12:13:04.2	53	----	-----	--------	-	-
245	15/09/2023 12:13:05.2	52.6	----	-----	--------	-	-
246	15/09/2023 12:13:06.2	53	----	-----	--------	-	-
247	15/09/2023 12:13:07.2	53.7	----	-----	--------	-	-
248	15/09/2023 12:13:08.2	54	----	-----	--------	-	-
249	15/09/2023 12:13:09.2	54.4	----	-----	--------	-	-
250	15/09/2023 12:13:10.2	54.6	----	-----	--------	-	-
251	15/09/2023 12:13:11.2	53.3	----	-----	--------	-	-
252	15/09/2023 12:13:12.2	53.7	----	-----	--------	-	-
253	15/09/2023 12:13:13.3	54.1	----	-----	--------	-	-
254	15/09/2023 12:13:14.3	53.9	----	-----	--------	-	-
255	15/09/2023 12:13:15.3	53.9	----	-----	--------	-	-
256	15/09/2023 12:13:16.3	54	----	-----	--------	-	-
257	15/09/2023 12:13:17.3	54.6	----	-----	--------	-	-
258	15/09/2023 12:13:18.3	54.5	----	-----	--------	-	-
259	15/09/2023 12:13:19.3	54.1	----	-----	--------	-	-
260	15/09/2023 12:13:20.3	55	----	-----	--------	-	-
261	15/09/2023 12:13:21.3	55.5	----	-----	--------	-	-
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276	15/09/2023 12:13:36.4	55.4	----	-----	--------	-	-
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279	15/09/2023 12:13:39.4	54.7	----	-----	--------	-	-

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284	15/09/2023 12:13:44.4	55.5	----	-----	--------	-	-
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306	15/09/2023 12:14:06.5	53.6	----	-----	--------	-	-
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308	15/09/2023 12:14:08.5	54.4	----	-----	--------	-	-
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314	15/09/2023 12:14:14.6	53.8	----	-----	--------	-	-
315	15/09/2023 12:14:15.6	54.4	----	-----	--------	-	-
316	15/09/2023 12:14:16.6	54.4	----	-----	--------	-	-
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324	15/09/2023 12:14:24.6	54.4	----	-----	--------	-	-
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327	15/09/2023 12:14:27.6	54.8	----	-----	--------	-	-
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335	15/09/2023 12:14:35.7	54.7	----	-----	--------	-	-
336	15/09/2023 12:14:36.7	55	----	-----	--------	-	-
337	15/09/2023 12:14:37.7	55.6	----	-----	--------	-	-
338	15/09/2023 12:14:38.7	54.9	----	-----	--------	-	-
339	15/09/2023 12:14:39.7	55.2	----	-----	--------	-	-
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342	15/09/2023 12:14:42.7	54.8	----	-----	--------	-	-
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345	15/09/2023 12:14:45.7	55.3	----	-----	--------	-	-
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350	15/09/2023 12:14:50.7	54.9	----	-----	--------	-	-
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354	15/09/2023 12:14:54.8	54.3	----	-----	--------	-	-
355	15/09/2023 12:14:55.8	55.1	----	-----	--------	-	-
356	15/09/2023 12:14:56.8	54.8	----	-----	--------	-	-
357	15/09/2023 12:14:57.8	55.5	----	-----	--------	-	-
358	15/09/2023 12:14:58.8	55.2	----	-----	--------	-	-
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363	15/09/2023 12:15:03.8	53.6	----	-----	--------	-	-
364	15/09/2023 12:15:04.8	53.9	----	-----	--------	-	-
365	15/09/2023 12:15:05.8	54.7	----	-----	--------	-	-
366	15/09/2023 12:15:06.8	53.6	----	-----	--------	-	-
367	15/09/2023 12:15:07.8	53.7	----	-----	--------	-	-
368	15/09/2023 12:15:08.8	53.8	----	-----	--------	-	-
369	15/09/2023 12:15:09.8	53.7	----	-----	--------	-	-
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374	15/09/2023 12:15:14.9	53.5	----	-----	--------	-	-
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376	15/09/2023 12:15:16.9	53.8	----	-----	--------	-	-
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387	15/09/2023 12:15:27.9	53.5	----	-----	--------	-	-
388	15/09/2023 12:15:28.9	53.6	----	-----	--------	-	-
389	15/09/2023 12:15:29.9	53.7	----	-----	--------	-	-
390	15/09/2023 12:15:30.9	53.5	----	-----	--------	-	-
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398	15/09/2023 12:15:39.0	53.2	----	-----	--------	-	-
399	15/09/2023 12:15:40.0	53	----	-----	--------	-	-
400	15/09/2023 12:15:41.0	53.1	----	-----	--------	-	-
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408	15/09/2023 12:15:49.0	56.2	----	-----	--------	-	-
409	15/09/2023 12:15:50.0	56.1	----	-----	--------	-	-
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411	15/09/2023 12:15:52.0	55.4	----	-----	--------	-	-
412	15/09/2023 12:15:53.0	55.7	----	-----	--------	-	-
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414	15/09/2023 12:15:55.1	57.5	----	-----	--------	-	-
415	15/09/2023 12:15:56.1	56.6	----	-----	--------	-	-
416	15/09/2023 12:15:57.1	55.8	----	-----	--------	-	-
417	15/09/2023 12:15:58.1	55.9	----	-----	--------	-	-
418	15/09/2023 12:15:59.1	55.5	----	-----	--------	-	-
419	15/09/2023 12:16:00.1	55.7	----	-----	--------	-	-
420	15/09/2023 12:16:01.1	55.6	----	-----	--------	-	-

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426	15/09/2023 12:16:07.1	55.4	----	-----	--------	-	-
427	15/09/2023 12:16:08.1	55.6	----	-----	--------	-	-
428	15/09/2023 12:16:09.1	55.7	----	-----	--------	-	-
429	15/09/2023 12:16:10.1	56.5	----	-----	--------	-	-
430	15/09/2023 12:16:11.1	56.2	----	-----	--------	-	-
431	15/09/2023 12:16:12.1	56.3	----	-----	--------	-	-
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436	15/09/2023 12:16:17.2	56.4	----	-----	--------	-	-
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444	15/09/2023 12:16:25.2	57.4	----	-----	--------	-	-
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448	15/09/2023 12:16:29.2	56.4	----	-----	--------	-	-
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452	15/09/2023 12:16:33.2	55.2	----	-----	--------	-	-
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456	15/09/2023 12:16:37.3	56.8	----	-----	--------	-	-
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462	15/09/2023 12:16:43.3	58.3	----	-----	--------	-	-
463	15/09/2023 12:16:44.3	55.9	----	-----	--------	-	-
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466	15/09/2023 12:16:47.3	55.3	----	-----	--------	-	-
467	15/09/2023 12:16:48.3	55.4	----	-----	--------	-	-

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471	15/09/2023 12:16:52.3	54.9	----	-----	--------	-	-
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476	15/09/2023 12:16:57.4	54.5	----	-----	--------	-	-
477	15/09/2023 12:16:58.4	54.7	----	-----	--------	-	-
478	15/09/2023 12:16:59.4	54.9	----	-----	--------	-	-
479	15/09/2023 12:17:00.4	55.2	----	-----	--------	-	-
480	15/09/2023 12:17:01.4	56	----	-----	--------	-	-
481	15/09/2023 12:17:02.4	56.3	----	-----	--------	-	-
482	15/09/2023 12:17:03.4	57	----	-----	--------	-	-
483	15/09/2023 12:17:04.4	55.9	----	-----	--------	-	-
484	15/09/2023 12:17:05.4	56.3	----	-----	--------	-	-
485	15/09/2023 12:17:06.4	56.8	----	-----	--------	-	-
486	15/09/2023 12:17:07.4	56.1	----	-----	--------	-	-
487	15/09/2023 12:17:08.4	57.2	----	-----	--------	-	-
488	15/09/2023 12:17:09.4	55.9	----	-----	--------	-	-
489	15/09/2023 12:17:10.4	55.8	----	-----	--------	-	-
490	15/09/2023 12:17:11.4	55.6	----	-----	--------	-	-
491	15/09/2023 12:17:12.4	56.4	----	-----	--------	-	-
492	15/09/2023 12:17:13.4	55.8	----	-----	--------	-	-
493	15/09/2023 12:17:14.5	55.8	----	-----	--------	-	-
494	15/09/2023 12:17:15.5	55.2	----	-----	--------	-	-
495	15/09/2023 12:17:16.5	55.6	----	-----	--------	-	-
496	15/09/2023 12:17:17.5	54.4	----	-----	--------	-	-
497	15/09/2023 12:17:18.5	54.3	----	-----	--------	-	-
498	15/09/2023 12:17:19.5	53.7	----	-----	--------	-	-
499	15/09/2023 12:17:20.5	53.3	----	-----	--------	-	-
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502	15/09/2023 12:17:23.5	53.1	----	-----	--------	-	-
503	15/09/2023 12:17:24.5	53.3	----	-----	--------	-	-
504	15/09/2023 12:17:25.5	53.5	----	-----	--------	-	-
505	15/09/2023 12:17:26.5	54.1	----	-----	--------	-	-
506	15/09/2023 12:17:27.5	54.1	----	-----	--------	-	-
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510	15/09/2023 12:17:31.5	53.3	----	-----	--------	-	-
511	15/09/2023 12:17:32.5	53.7	----	-----	--------	-	-
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513	15/09/2023 12:17:34.6	54	----	-----	--------	-	-
514	15/09/2023 12:17:35.6	54.6	----	-----	--------	-	-

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517	15/09/2023 12:17:38.6	53.1	----	-----	--------	-	-
518	15/09/2023 12:17:39.6	53.1	----	-----	--------	-	-
519	15/09/2023 12:17:40.6	53.5	----	-----	--------	-	-
520	15/09/2023 12:17:41.6	53.3	----	-----	--------	-	-
521	15/09/2023 12:17:42.6	53.7	----	-----	--------	-	-
522	15/09/2023 12:17:43.6	53.6	----	-----	--------	-	-
523	15/09/2023 12:17:44.6	52.8	----	-----	--------	-	-
524	15/09/2023 12:17:45.6	53.1	----	-----	--------	-	-
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535	15/09/2023 12:17:56.7	53	----	-----	--------	-	-
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537	15/09/2023 12:17:58.7	53.1	----	-----	--------	-	-
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540	15/09/2023 12:18:01.7	53.1	----	-----	--------	-	-
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545	15/09/2023 12:18:06.7	54.3	----	-----	--------	-	-
546	15/09/2023 12:18:07.7	54.2	----	-----	--------	-	-
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561	15/09/2023 12:18:22.8	54	----	-----	--------	-	-

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617	15/09/2023 12:19:19.1	53.8	----	-----	--------	-	-
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622	15/09/2023 12:19:24.1	53.4	----	-----	--------	-	-
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634	15/09/2023 12:19:36.2	53.5	----	-----	--------	-	-
635	15/09/2023 12:19:37.2	53.5	----	-----	--------	-	-
636	15/09/2023 12:19:38.2	53.7	----	-----	--------	-	-
637	15/09/2023 12:19:39.2	54.2	----	-----	--------	-	-
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646	15/09/2023 12:19:48.2	56.1	----	-----	--------	-	-
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653	15/09/2023 12:19:55.3	55.8	----	-----	--------	-	-
654	15/09/2023 12:19:56.3	56	----	-----	--------	-	-
655	15/09/2023 12:19:57.3	56.3	----	-----	--------	-	-

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668	15/09/2023 12:20:10.3	56.7	----	-----	--------	-	-
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675	15/09/2023 12:20:17.4	56.5	----	-----	--------	-	-
676	15/09/2023 12:20:18.4	56.7	----	-----	--------	-	-
677	15/09/2023 12:20:19.4	57.6	----	-----	--------	-	-
678	15/09/2023 12:20:20.4	57.1	----	-----	--------	-	-
679	15/09/2023 12:20:21.4	56.9	----	-----	--------	-	-
680	15/09/2023 12:20:22.4	56.8	----	-----	--------	-	-
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685	15/09/2023 12:20:27.4	56.6	----	-----	--------	-	-
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694	15/09/2023 12:20:36.5	55.7	----	-----	--------	-	-
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698	15/09/2023 12:20:40.5	56.9	----	-----	--------	-	-
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700	15/09/2023 12:20:42.5	55.9	----	-----	--------	-	-
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702	15/09/2023 12:20:44.5	55.6	----	-----	--------	-	-

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705	15/09/2023 12:20:47.5	55.7	----	-----	--------	-	-
706	15/09/2023 12:20:48.5	55.3	----	-----	--------	-	-
707	15/09/2023 12:20:49.5	55.1	----	-----	--------	-	-
708	15/09/2023 12:20:50.5	54.6	----	-----	--------	-	-
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712	15/09/2023 12:20:54.5	54.1	----	-----	--------	-	-
713	15/09/2023 12:20:55.6	53.4	----	-----	--------	-	-
714	15/09/2023 12:20:56.6	53.3	----	-----	--------	-	-
715	15/09/2023 12:20:57.6	53.7	----	-----	--------	-	-
716	15/09/2023 12:20:58.6	54.8	----	-----	--------	-	-
717	15/09/2023 12:20:59.6	53.7	----	-----	--------	-	-
718	15/09/2023 12:21:00.6	53.2	----	-----	--------	-	-
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721	15/09/2023 12:21:03.6	53.8	----	-----	--------	-	-
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723	15/09/2023 12:21:05.6	53	----	-----	--------	-	-
724	15/09/2023 12:21:06.6	53.1	----	-----	--------	-	-
725	15/09/2023 12:21:07.6	53.2	----	-----	--------	-	-
726	15/09/2023 12:21:08.6	53.1	----	-----	--------	-	-
727	15/09/2023 12:21:09.6	53.4	----	-----	--------	-	-
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730	15/09/2023 12:21:12.6	53	----	-----	--------	-	-
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732	15/09/2023 12:21:14.6	53.1	----	-----	--------	-	-
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734	15/09/2023 12:21:16.7	53.8	----	-----	--------	-	-
735	15/09/2023 12:21:17.7	53.4	----	-----	--------	-	-
736	15/09/2023 12:21:18.7	55.6	----	-----	--------	-	-
737	15/09/2023 12:21:19.7	55.7	----	-----	--------	-	-
738	15/09/2023 12:21:20.7	54.3	----	-----	--------	-	-
739	15/09/2023 12:21:21.7	56	----	-----	--------	-	-
740	15/09/2023 12:21:22.7	54.6	----	-----	--------	-	-
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742	15/09/2023 12:21:24.7	55.1	----	-----	--------	-	-
743	15/09/2023 12:21:25.7	55.1	----	-----	--------	-	-
744	15/09/2023 12:21:26.7	54.2	----	-----	--------	-	-
745	15/09/2023 12:21:27.7	54.4	----	-----	--------	-	-
746	15/09/2023 12:21:28.7	55.1	----	-----	--------	-	-
747	15/09/2023 12:21:29.7	54.8	----	-----	--------	-	-
748	15/09/2023 12:21:30.7	56	----	-----	--------	-	-
749	15/09/2023 12:21:31.7	55.2	----	-----	--------	-	-

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752	15/09/2023 12:21:34.7	55.7	----	-----	--------	-	-
753	15/09/2023 12:21:35.8	55.5	----	-----	--------	-	-
754	15/09/2023 12:21:36.8	54.9	----	-----	--------	-	-
755	15/09/2023 12:21:37.8	55.4	----	-----	--------	-	-
756	15/09/2023 12:21:38.8	55.4	----	-----	--------	-	-
757	15/09/2023 12:21:39.8	55.4	----	-----	--------	-	-
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759	15/09/2023 12:21:41.8	55.3	----	-----	--------	-	-
760	15/09/2023 12:21:42.8	55.8	----	-----	--------	-	-
761	15/09/2023 12:21:43.8	55.8	----	-----	--------	-	-
762	15/09/2023 12:21:44.8	55.7	----	-----	--------	-	-
763	15/09/2023 12:21:45.8	55.5	----	-----	--------	-	-
764	15/09/2023 12:21:46.8	56.4	----	-----	--------	-	-
765	15/09/2023 12:21:47.8	61.2	----	-----	--------	-	-
766	15/09/2023 12:21:48.8	58.6	----	-----	--------	-	-
767	15/09/2023 12:21:49.8	56.5	----	-----	--------	-	-
768	15/09/2023 12:21:50.8	55.5	----	-----	--------	-	-
769	15/09/2023 12:21:51.8	54.7	----	-----	--------	-	-
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771	15/09/2023 12:21:53.8	55.2	----	-----	--------	-	-
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773	15/09/2023 12:21:55.9	55.4	----	-----	--------	-	-
774	15/09/2023 12:21:56.9	55.2	----	-----	--------	-	-
775	15/09/2023 12:21:57.9	55.8	----	-----	--------	-	-
776	15/09/2023 12:21:58.9	55.7	----	-----	--------	-	-
777	15/09/2023 12:21:59.9	56.4	----	-----	--------	-	-
778	15/09/2023 12:22:00.9	56.4	----	-----	--------	-	-
779	15/09/2023 12:22:01.9	57.2	----	-----	--------	-	-
780	15/09/2023 12:22:02.9	57.1	----	-----	--------	-	-
781	15/09/2023 12:22:03.9	57.2	----	-----	--------	-	-
782	15/09/2023 12:22:04.9	58.1	----	-----	--------	-	-
783	15/09/2023 12:22:05.9	57.4	----	-----	--------	-	-
784	15/09/2023 12:22:06.9	57.1	----	-----	--------	-	-
785	15/09/2023 12:22:07.9	56.9	----	-----	--------	-	-
786	15/09/2023 12:22:08.9	56.8	----	-----	--------	-	-
787	15/09/2023 12:22:09.9	56	----	-----	--------	-	-
788	15/09/2023 12:22:10.9	55.6	----	-----	--------	-	-
789	15/09/2023 12:22:11.9	55.4	----	-----	--------	-	-
790	15/09/2023 12:22:12.9	55.3	----	-----	--------	-	-
791	15/09/2023 12:22:13.9	55.3	----	-----	--------	-	-
792	15/09/2023 12:22:14.9	55.5	----	-----	--------	-	-
793	15/09/2023 12:22:16.0	55.3	----	-----	--------	-	-
794	15/09/2023 12:22:17.0	56.1	----	-----	--------	-	-
795	15/09/2023 12:22:18.0	56.1	----	-----	--------	-	-
796	15/09/2023 12:22:19.0	55.8	----	-----	--------	-	-

797	15/09/2023 12:22:20.0	55.8	----	-----	--------	-	-
798	15/09/2023 12:22:21.0	55.7	----	-----	--------	-	-
799	15/09/2023 12:22:22.0	55.8	----	-----	--------	-	-
800	15/09/2023 12:22:23.0	56.5	----	-----	--------	-	-
801	15/09/2023 12:22:24.0	56.5	----	-----	--------	-	-
802	15/09/2023 12:22:25.0	56.1	----	-----	--------	-	-
803	15/09/2023 12:22:26.0	56.5	----	-----	--------	-	-
804	15/09/2023 12:22:27.0	56.5	----	-----	--------	-	-
805	15/09/2023 12:22:28.0	56.4	----	-----	--------	-	-
806	15/09/2023 12:22:29.0	56	----	-----	--------	-	-
807	15/09/2023 12:22:30.0	56	----	-----	--------	-	-
808	15/09/2023 12:22:31.0	55.6	----	-----	--------	-	-
809	15/09/2023 12:22:32.0	56	----	-----	--------	-	-
810	15/09/2023 12:22:33.0	55.9	----	-----	--------	-	-
811	15/09/2023 12:22:34.0	54.8	----	-----	--------	-	-
812	15/09/2023 12:22:35.0	55.1	----	-----	--------	-	-
813	15/09/2023 12:22:36.1	55.5	----	-----	--------	-	-
814	15/09/2023 12:22:37.1	55.3	----	-----	--------	-	-
815	15/09/2023 12:22:38.1	55	----	-----	--------	-	-
816	15/09/2023 12:22:39.1	54.8	----	-----	--------	-	-
817	15/09/2023 12:22:40.1	54.5	----	-----	--------	-	-
818	15/09/2023 12:22:41.1	54.6	----	-----	--------	-	-
819	15/09/2023 12:22:42.1	53.8	----	-----	--------	-	-
820	15/09/2023 12:22:43.1	54.1	----	-----	--------	-	-
821	15/09/2023 12:22:44.1	54.6	----	-----	--------	-	-
822	15/09/2023 12:22:45.1	54.5	----	-----	--------	-	-
823	15/09/2023 12:22:46.1	53.9	----	-----	--------	-	-
824	15/09/2023 12:22:47.1	53.8	----	-----	--------	-	-
825	15/09/2023 12:22:48.1	53.5	----	-----	--------	-	-
826	15/09/2023 12:22:49.1	53.2	----	-----	--------	-	-
827	15/09/2023 12:22:50.1	52.9	----	-----	--------	-	-
828	15/09/2023 12:22:51.1	53	----	-----	--------	-	-
829	15/09/2023 12:22:52.1	52.7	----	-----	--------	-	-
830	15/09/2023 12:22:53.1	53	----	-----	--------	-	-
831	15/09/2023 12:22:54.1	53.6	----	-----	--------	-	-
832	15/09/2023 12:22:55.1	52.8	----	-----	--------	-	-
833	15/09/2023 12:22:56.2	52.1	----	-----	--------	-	-
834	15/09/2023 12:22:57.2	52.8	----	-----	--------	-	-
835	15/09/2023 12:22:58.2	53.5	----	-----	--------	-	-
836	15/09/2023 12:22:59.2	53.2	----	-----	--------	-	-
837	15/09/2023 12:23:00.2	52.9	----	-----	--------	-	-
838	15/09/2023 12:23:01.2	53	----	-----	--------	-	-
839	15/09/2023 12:23:02.2	53.4	----	-----	--------	-	-
840	15/09/2023 12:23:03.2	53.2	----	-----	--------	-	-
841	15/09/2023 12:23:04.2	53.4	----	-----	--------	-	-
842	15/09/2023 12:23:05.2	53.2	----	-----	--------	-	-
843	15/09/2023 12:23:06.2	53.2	----	-----	--------	-	-

844	15/09/2023 12:23:07.2	54	----	-----	--------	-	-
845	15/09/2023 12:23:08.2	54.3	----	-----	--------	-	-
846	15/09/2023 12:23:09.2	54.6	----	-----	--------	-	-
847	15/09/2023 12:23:10.2	53.9	----	-----	--------	-	-
848	15/09/2023 12:23:11.2	54	----	-----	--------	-	-
849	15/09/2023 12:23:12.2	53.7	----	-----	--------	-	-
850	15/09/2023 12:23:13.2	53.5	----	-----	--------	-	-
851	15/09/2023 12:23:14.2	53.2	----	-----	--------	-	-
852	15/09/2023 12:23:15.2	53.2	----	-----	--------	-	-
853	15/09/2023 12:23:16.3	53	----	-----	--------	-	-
854	15/09/2023 12:23:17.3	53.1	----	-----	--------	-	-
855	15/09/2023 12:23:18.3	52.4	----	-----	--------	-	-
856	15/09/2023 12:23:19.3	53.2	----	-----	--------	-	-
857	15/09/2023 12:23:20.3	53.1	----	-----	--------	-	-
858	15/09/2023 12:23:21.3	54.1	----	-----	--------	-	-
859	15/09/2023 12:23:22.3	54.4	----	-----	--------	-	-
860	15/09/2023 12:23:23.3	52.2	----	-----	--------	-	-
861	15/09/2023 12:23:24.3	53.6	----	-----	--------	-	-
862	15/09/2023 12:23:25.3	53.8	----	-----	--------	-	-
863	15/09/2023 12:23:26.3	52.4	----	-----	--------	-	-
864	15/09/2023 12:23:27.3	53	----	-----	--------	-	-
865	15/09/2023 12:23:28.3	53.1	----	-----	--------	-	-
866	15/09/2023 12:23:29.3	52.6	----	-----	--------	-	-
867	15/09/2023 12:23:30.3	53.3	----	-----	--------	-	-
868	15/09/2023 12:23:31.3	53.5	----	-----	--------	-	-
869	15/09/2023 12:23:32.3	53.5	----	-----	--------	-	-
870	15/09/2023 12:23:33.3	54.6	----	-----	--------	-	-
871	15/09/2023 12:23:34.3	54.3	----	-----	--------	-	-
872	15/09/2023 12:23:35.3	55.5	----	-----	--------	-	-
873	15/09/2023 12:23:36.4	54.3	----	-----	--------	-	-
874	15/09/2023 12:23:37.4	54.1	----	-----	--------	-	-
875	15/09/2023 12:23:38.4	55.2	----	-----	--------	-	-
876	15/09/2023 12:23:39.4	62.3	----	-----	--------	-	-
877	15/09/2023 12:23:40.4	55.5	----	-----	--------	-	-
878	15/09/2023 12:23:41.4	54.9	----	-----	--------	-	-
879	15/09/2023 12:23:42.4	54.9	----	-----	--------	-	-
880	15/09/2023 12:23:43.4	55.5	----	-----	--------	-	-
881	15/09/2023 12:23:44.4	55.5	----	-----	--------	-	-
882	15/09/2023 12:23:45.4	56.3	----	-----	--------	-	-
883	15/09/2023 12:23:46.4	55.3	----	-----	--------	-	-
884	15/09/2023 12:23:47.4	55.4	----	-----	--------	-	-
885	15/09/2023 12:23:48.4	55.5	----	-----	--------	-	-
886	15/09/2023 12:23:49.4	56.3	----	-----	--------	-	-
887	15/09/2023 12:23:50.4	59.5	----	-----	--------	-	-
888	15/09/2023 12:23:51.4	56.4	----	-----	--------	-	-
889	15/09/2023 12:23:52.4	56.8	----	-----	--------	-	-
890	15/09/2023 12:23:53.4	55.6	----	-----	--------	-	-

891	15/09/2023 12:23:54.4	66.9	----	-----	--------	-	-
892	15/09/2023 12:23:55.4	56.1	----	-----	--------	-	-
893	15/09/2023 12:23:56.5	55	----	-----	--------	-	-
894	15/09/2023 12:23:57.5	55.7	----	-----	--------	-	-
895	15/09/2023 12:23:58.5	54.1	----	-----	--------	-	-
896	15/09/2023 12:23:59.5	55.3	----	-----	--------	-	-
897	15/09/2023 12:24:00.5	53.8	----	-----	--------	-	-
898	15/09/2023 12:24:01.5	52.8	----	-----	--------	-	-
899	15/09/2023 12:24:02.5	57.4	----	-----	--------	-	-
900	15/09/2023 12:24:03.5	53.1	----	-----	--------	-	-

ST2

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	9/15/2023 12:09	00d 00:15:	54.6	84.2	66.4	50.3	-.-	46.4	52	55.5	54.1	51.5	----	-----

ST3

Address	Start Time	Leq	Over	Under	Output Ov	Marker 1	Marker 2
1	15/09/2023 12:30:00.0	49.7	----	-----	--------	-	-
2	15/09/2023 12:30:01.0	51.5	----	-----	--------	-	-
3	15/09/2023 12:30:02.0	50.1	----	-----	--------	-	-
4	15/09/2023 12:30:03.0	52.4	----	-----	--------	-	-
5	15/09/2023 12:30:04.0	51.7	----	-----	--------	-	-
6	15/09/2023 12:30:05.0	52.6	----	-----	--------	-	-
7	15/09/2023 12:30:06.0	51.9	----	-----	--------	-	-
8	15/09/2023 12:30:07.0	52.9	----	-----	--------	-	-
9	15/09/2023 12:30:08.0	52.8	----	-----	--------	-	-
10	15/09/2023 12:30:09.0	52.4	----	-----	--------	-	-
11	15/09/2023 12:30:10.0	53.3	----	-----	--------	-	-
12	15/09/2023 12:30:10.9	49.5	----	-----	--------	-	-
13	15/09/2023 12:30:11.9	51.4	----	-----	--------	-	-
14	15/09/2023 12:30:12.9	52.6	----	-----	--------	-	-
15	15/09/2023 12:30:13.9	51.1	----	-----	--------	-	-
16	15/09/2023 12:30:14.9	52.7	----	-----	--------	-	-
17	15/09/2023 12:30:15.9	50.6	----	-----	--------	-	-
18	15/09/2023 12:30:16.9	49.9	----	-----	--------	-	-
19	15/09/2023 12:30:17.9	47.5	----	-----	--------	-	-
20	15/09/2023 12:30:18.9	48.6	----	-----	--------	-	-
21	15/09/2023 12:30:19.9	50.1	----	-----	--------	-	-
22	15/09/2023 12:30:20.9	50.5	----	-----	--------	-	-
23	15/09/2023 12:30:21.9	50.5	----	-----	--------	-	-
24	15/09/2023 12:30:22.9	53.1	----	-----	--------	-	-
25	15/09/2023 12:30:23.9	51.7	----	-----	--------	-	-
26	15/09/2023 12:30:24.9	50.9	----	-----	--------	-	-
27	15/09/2023 12:30:25.9	50.5	----	-----	--------	-	-
28	15/09/2023 12:30:26.9	48.6	----	-----	--------	-	-
29	15/09/2023 12:30:27.9	48.4	----	-----	--------	-	-
30	15/09/2023 12:30:28.9	50.5	----	-----	--------	-	-
31	15/09/2023 12:30:29.8	55	----	-----	--------	-	-
32	15/09/2023 12:30:30.8	55	----	-----	--------	-	-
33	15/09/2023 12:30:31.8	56.8	----	-----	--------	-	-
34	15/09/2023 12:30:32.8	57.7	----	-----	--------	-	-
35	15/09/2023 12:30:33.8	57.3	----	-----	--------	-	-
36	15/09/2023 12:30:34.8	57.1	----	-----	--------	-	-
37	15/09/2023 12:30:35.8	58	----	-----	--------	-	-
38	15/09/2023 12:30:36.8	62.8	----	-----	--------	-	-
39	15/09/2023 12:30:37.8	66.5	----	-----	--------	-	-
40	15/09/2023 12:30:38.8	71.3	----	-----	--------	-	-
41	15/09/2023 12:30:39.8	78.6	----	-----	--------	-	-
42	15/09/2023 12:30:40.8	78.3	----	-----	--------	-	-
43	15/09/2023 12:30:41.8	69.9	----	-----	--------	-	-
44	15/09/2023 12:30:42.8	65.4	----	-----	--------	-	-

45	15/09/2023 12:30:43.8	59.8	----	-----	--------	-	-
46	15/09/2023 12:30:44.8	56.9	----	-----	--------	-	-
47	15/09/2023 12:30:45.8	55.4	----	-----	--------	-	-
48	15/09/2023 12:30:46.8	55.5	----	-----	--------	-	-
49	15/09/2023 12:30:47.8	58.3	----	-----	--------	-	-
50	15/09/2023 12:30:48.8	56.6	----	-----	--------	-	-
51	15/09/2023 12:30:49.7	56.3	----	-----	--------	-	-
52	15/09/2023 12:30:50.7	56.1	----	-----	--------	-	-
53	15/09/2023 12:30:51.7	57.3	----	-----	--------	-	-
54	15/09/2023 12:30:52.7	57.9	----	-----	--------	-	-
55	15/09/2023 12:30:53.7	57.4	----	-----	--------	-	-
56	15/09/2023 12:30:54.7	55.4	----	-----	--------	-	-
57	15/09/2023 12:30:55.7	56.2	----	-----	--------	-	-
58	15/09/2023 12:30:56.7	57.2	----	-----	--------	-	-
59	15/09/2023 12:30:57.7	55.9	----	-----	--------	-	-
60	15/09/2023 12:30:58.7	54.7	----	-----	--------	-	-
61	15/09/2023 12:30:59.7	52.4	----	-----	--------	-	-
62	15/09/2023 12:31:00.7	50.9	----	-----	--------	-	-
63	15/09/2023 12:31:01.7	48.5	----	-----	--------	-	-
64	15/09/2023 12:31:02.7	48.4	----	-----	--------	-	-
65	15/09/2023 12:31:03.7	49	----	-----	--------	-	-
66	15/09/2023 12:31:04.7	47.2	----	-----	--------	-	-
67	15/09/2023 12:31:05.7	45.5	----	-----	--------	-	-
68	15/09/2023 12:31:06.7	45.3	----	-----	--------	-	-
69	15/09/2023 12:31:07.7	44.9	----	-----	--------	-	-
70	15/09/2023 12:31:08.7	45.4	----	-----	--------	-	-
71	15/09/2023 12:31:09.6	45.2	----	-----	--------	-	-
72	15/09/2023 12:31:10.6	46.6	----	-----	--------	-	-
73	15/09/2023 12:31:11.6	48.2	----	-----	--------	-	-
74	15/09/2023 12:31:12.6	48.2	----	-----	--------	-	-
75	15/09/2023 12:31:13.6	47.6	----	-----	--------	-	-
76	15/09/2023 12:31:14.6	49	----	-----	--------	-	-
77	15/09/2023 12:31:15.6	48.1	----	-----	--------	-	-
78	15/09/2023 12:31:16.6	50.2	----	-----	--------	-	-
79	15/09/2023 12:31:17.6	49.4	----	-----	--------	-	-
80	15/09/2023 12:31:18.6	48.6	----	-----	--------	-	-
81	15/09/2023 12:31:19.6	48	----	-----	--------	-	-
82	15/09/2023 12:31:20.6	50.3	----	-----	--------	-	-
83	15/09/2023 12:31:21.6	47.4	----	-----	--------	-	-
84	15/09/2023 12:31:22.6	50.9	----	-----	--------	-	-
85	15/09/2023 12:31:23.6	46.7	----	-----	--------	-	-
86	15/09/2023 12:31:24.6	46.5	----	-----	--------	-	-
87	15/09/2023 12:31:25.6	46.8	----	-----	--------	-	-
88	15/09/2023 12:31:26.6	46.5	----	-----	--------	-	-
89	15/09/2023 12:31:27.6	50.6	----	-----	--------	-	-
90	15/09/2023 12:31:28.6	48.6	----	-----	--------	-	-
91	15/09/2023 12:31:29.5	45.8	----	-----	--------	-	-

92	15/09/2023 12:31:30.5	45.9	----	-----	--------	-	-
93	15/09/2023 12:31:31.5	45.7	----	-----	--------	-	-
94	15/09/2023 12:31:32.5	48	----	-----	--------	-	-
95	15/09/2023 12:31:33.5	50.7	----	-----	--------	-	-
96	15/09/2023 12:31:34.5	48.4	----	-----	--------	-	-
97	15/09/2023 12:31:35.5	48.4	----	-----	--------	-	-
98	15/09/2023 12:31:36.5	48.7	----	-----	--------	-	-
99	15/09/2023 12:31:37.5	48.9	----	-----	--------	-	-
100	15/09/2023 12:31:38.5	49.2	----	-----	--------	-	-
101	15/09/2023 12:31:39.5	49.4	----	-----	--------	-	-
102	15/09/2023 12:31:40.5	50.1	----	-----	--------	-	-
103	15/09/2023 12:31:41.5	49.3	----	-----	--------	-	-
104	15/09/2023 12:31:42.5	50.2	----	-----	--------	-	-
105	15/09/2023 12:31:43.5	56.4	----	-----	--------	-	-
106	15/09/2023 12:31:44.5	50.7	----	-----	--------	-	-
107	15/09/2023 12:31:45.5	52.2	----	-----	--------	-	-
108	15/09/2023 12:31:46.5	56	----	-----	--------	-	-
109	15/09/2023 12:31:47.5	57.6	----	-----	--------	-	-
110	15/09/2023 12:31:48.5	58.5	----	-----	--------	-	-
111	15/09/2023 12:31:49.4	58.4	----	-----	--------	-	-
112	15/09/2023 12:31:50.4	60.8	----	-----	--------	-	-
113	15/09/2023 12:31:51.4	62.7	----	-----	--------	-	-
114	15/09/2023 12:31:52.4	67.6	----	-----	--------	-	-
115	15/09/2023 12:31:53.4	73.7	----	-----	--------	-	-
116	15/09/2023 12:31:54.4	72.2	----	-----	--------	-	-
117	15/09/2023 12:31:55.4	64.8	----	-----	--------	-	-
118	15/09/2023 12:31:56.4	62.7	----	-----	--------	-	-
119	15/09/2023 12:31:57.4	56.9	----	-----	--------	-	-
120	15/09/2023 12:31:58.4	54	----	-----	--------	-	-
121	15/09/2023 12:31:59.4	53.4	----	-----	--------	-	-
122	15/09/2023 12:32:00.4	51.5	----	-----	--------	-	-
123	15/09/2023 12:32:01.4	51.8	----	-----	--------	-	-
124	15/09/2023 12:32:02.4	52.2	----	-----	--------	-	-
125	15/09/2023 12:32:03.4	52.2	----	-----	--------	-	-
126	15/09/2023 12:32:04.4	52	----	-----	--------	-	-
127	15/09/2023 12:32:05.4	51.9	----	-----	--------	-	-
128	15/09/2023 12:32:06.4	53	----	-----	--------	-	-
129	15/09/2023 12:32:07.4	51.8	----	-----	--------	-	-
130	15/09/2023 12:32:08.4	49.9	----	-----	--------	-	-
131	15/09/2023 12:32:09.3	50	----	-----	--------	-	-
132	15/09/2023 12:32:10.3	50.2	----	-----	--------	-	-
133	15/09/2023 12:32:11.3	51.7	----	-----	--------	-	-
134	15/09/2023 12:32:12.3	51.3	----	-----	--------	-	-
135	15/09/2023 12:32:13.3	52	----	-----	--------	-	-
136	15/09/2023 12:32:14.3	53	----	-----	--------	-	-
137	15/09/2023 12:32:15.3	51.4	----	-----	--------	-	-
138	15/09/2023 12:32:16.3	50.9	----	-----	--------	-	-

139	15/09/2023 12:32:17.3	51.2	----	-----	--------	-	-
140	15/09/2023 12:32:18.3	50.5	----	-----	--------	-	-
141	15/09/2023 12:32:19.3	50.6	----	-----	--------	-	-
142	15/09/2023 12:32:20.3	51.4	----	-----	--------	-	-
143	15/09/2023 12:32:21.3	49.7	----	-----	--------	-	-
144	15/09/2023 12:32:22.3	50.1	----	-----	--------	-	-
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184	15/09/2023 12:33:02.1	54	----	-----	--------	-	-
185	15/09/2023 12:33:03.1	54.2	----	-----	--------	-	-

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189	15/09/2023 12:33:07.1	52.3	----	-----	--------	-	-
190	15/09/2023 12:33:08.1	51.9	----	-----	--------	-	-
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209	15/09/2023 12:33:27.0	50.7	----	-----	--------	-	-
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224	15/09/2023 12:33:41.9	51.8	----	-----	--------	-	-
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232	15/09/2023 12:33:49.8	49.9	----	-----	--------	-	-

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237	15/09/2023 12:33:54.8	50.4	----	-----	--------	-	-
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239	15/09/2023 12:33:56.8	50.1	----	-----	--------	-	-
240	15/09/2023 12:33:57.8	51.8	----	-----	--------	-	-
241	15/09/2023 12:33:58.8	49.9	----	-----	--------	-	-
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250	15/09/2023 12:34:07.8	50.6	----	-----	--------	-	-
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261	15/09/2023 12:34:18.7	52	----	-----	--------	-	-
262	15/09/2023 12:34:19.7	51.8	----	-----	--------	-	-
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276	15/09/2023 12:34:33.6	51.7	----	-----	--------	-	-
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278	15/09/2023 12:34:35.6	51.8	----	-----	--------	-	-
279	15/09/2023 12:34:36.6	52	----	-----	--------	-	-

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286	15/09/2023 12:34:43.6	52.6	----	-----	--------	-	-
287	15/09/2023 12:34:44.6	52.8	----	-----	--------	-	-
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291	15/09/2023 12:34:48.5	50.7	----	-----	--------	-	-
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306	15/09/2023 12:35:03.5	52.1	----	-----	--------	-	-
307	15/09/2023 12:35:04.5	51.9	----	-----	--------	-	-
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310	15/09/2023 12:35:07.5	51.6	----	-----	--------	-	-
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320	15/09/2023 12:35:17.4	52.8	----	-----	--------	-	-
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330	15/09/2023 12:35:27.4	51.6	----	-----	--------	-	-
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333	15/09/2023 12:35:30.3	50.7	----	-----	--------	-	-
334	15/09/2023 12:35:31.3	51.8	----	-----	--------	-	-
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338	15/09/2023 12:35:35.3	50.5	----	-----	--------	-	-
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345	15/09/2023 12:35:42.3	50	----	-----	--------	-	-
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347	15/09/2023 12:35:44.3	50.4	----	-----	--------	-	-
348	15/09/2023 12:35:45.3	51	----	-----	--------	-	-
349	15/09/2023 12:35:46.3	51.2	----	-----	--------	-	-
350	15/09/2023 12:35:47.3	50.8	----	-----	--------	-	-
351	15/09/2023 12:35:48.2	50.3	----	-----	--------	-	-
352	15/09/2023 12:35:49.2	50.9	----	-----	--------	-	-
353	15/09/2023 12:35:50.2	50.4	----	-----	--------	-	-
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355	15/09/2023 12:35:52.2	54.5	----	-----	--------	-	-
356	15/09/2023 12:35:53.2	51.5	----	-----	--------	-	-
357	15/09/2023 12:35:54.2	51.7	----	-----	--------	-	-
358	15/09/2023 12:35:55.2	50.8	----	-----	--------	-	-
359	15/09/2023 12:35:56.2	50.6	----	-----	--------	-	-
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361	15/09/2023 12:35:58.2	50.1	----	-----	--------	-	-
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363	15/09/2023 12:36:00.2	49.8	----	-----	--------	-	-
364	15/09/2023 12:36:01.2	49.9	----	-----	--------	-	-
365	15/09/2023 12:36:02.2	49.9	----	-----	--------	-	-
366	15/09/2023 12:36:03.2	49.7	----	-----	--------	-	-
367	15/09/2023 12:36:04.2	50.2	----	-----	--------	-	-
368	15/09/2023 12:36:05.2	49.9	----	-----	--------	-	-
369	15/09/2023 12:36:06.2	51	----	-----	--------	-	-
370	15/09/2023 12:36:07.2	51.1	----	-----	--------	-	-
371	15/09/2023 12:36:08.1	50.2	----	-----	--------	-	-
372	15/09/2023 12:36:09.1	50.2	----	-----	--------	-	-
373	15/09/2023 12:36:10.1	50.1	----	-----	--------	-	-

374	15/09/2023 12:36:11.1	50.4	----	-----	--------	-	-
375	15/09/2023 12:36:12.1	50.8	----	-----	--------	-	-
376	15/09/2023 12:36:13.1	52	----	-----	--------	-	-
377	15/09/2023 12:36:14.1	52.6	----	-----	--------	-	-
378	15/09/2023 12:36:15.1	51.2	----	-----	--------	-	-
379	15/09/2023 12:36:16.1	51.2	----	-----	--------	-	-
380	15/09/2023 12:36:17.1	51.8	----	-----	--------	-	-
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382	15/09/2023 12:36:19.1	51.1	----	-----	--------	-	-
383	15/09/2023 12:36:20.1	50.7	----	-----	--------	-	-
384	15/09/2023 12:36:21.1	50.9	----	-----	--------	-	-
385	15/09/2023 12:36:22.1	50.7	----	-----	--------	-	-
386	15/09/2023 12:36:23.1	50.9	----	-----	--------	-	-
387	15/09/2023 12:36:24.1	50.7	----	-----	--------	-	-
388	15/09/2023 12:36:25.1	50.6	----	-----	--------	-	-
389	15/09/2023 12:36:26.1	51	----	-----	--------	-	-
390	15/09/2023 12:36:27.1	51.5	----	-----	--------	-	-
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392	15/09/2023 12:36:29.0	50.5	----	-----	--------	-	-
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395	15/09/2023 12:36:32.0	50.6	----	-----	--------	-	-
396	15/09/2023 12:36:33.0	50.6	----	-----	--------	-	-
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398	15/09/2023 12:36:35.0	50.6	----	-----	--------	-	-
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400	15/09/2023 12:36:37.0	50.4	----	-----	--------	-	-
401	15/09/2023 12:36:38.0	50.7	----	-----	--------	-	-
402	15/09/2023 12:36:39.0	50.4	----	-----	--------	-	-
403	15/09/2023 12:36:40.0	50.6	----	-----	--------	-	-
404	15/09/2023 12:36:41.0	50.8	----	-----	--------	-	-
405	15/09/2023 12:36:42.0	50.5	----	-----	--------	-	-
406	15/09/2023 12:36:43.0	50.3	----	-----	--------	-	-
407	15/09/2023 12:36:44.0	50.5	----	-----	--------	-	-
408	15/09/2023 12:36:45.0	50.6	----	-----	--------	-	-
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415	15/09/2023 12:36:51.9	51.7	----	-----	--------	-	-
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420	15/09/2023 12:36:56.9	51.2	----	-----	--------	-	-

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426	15/09/2023 12:37:02.9	50.9	----	-----	--------	-	-
427	15/09/2023 12:37:03.9	51.3	----	-----	--------	-	-
428	15/09/2023 12:37:04.9	51.2	----	-----	--------	-	-
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433	15/09/2023 12:37:09.8	51.2	----	-----	--------	-	-
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483	15/09/2023 12:37:59.6	53.4	----	-----	--------	-	-
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487	15/09/2023 12:38:03.6	54.5	----	-----	--------	-	-
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492	15/09/2023 12:38:08.5	52.2	----	-----	--------	-	-
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496	15/09/2023 12:38:12.5	50.2	----	-----	--------	-	-
497	15/09/2023 12:38:13.5	50.7	----	-----	--------	-	-
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501	15/09/2023 12:38:17.5	52	----	-----	--------	-	-
502	15/09/2023 12:38:18.5	51.1	----	-----	--------	-	-
503	15/09/2023 12:38:19.5	50.7	----	-----	--------	-	-
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506	15/09/2023 12:38:22.5	50.6	----	-----	--------	-	-
507	15/09/2023 12:38:23.5	51.6	----	-----	--------	-	-
508	15/09/2023 12:38:24.5	50.9	----	-----	--------	-	-
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510	15/09/2023 12:38:26.5	50.8	----	-----	--------	-	-
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514	15/09/2023 12:38:30.4	50.6	----	-----	--------	-	-

515	15/09/2023 12:38:31.4	49.9	----	-----	--------	-	-
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518	15/09/2023 12:38:34.4	50.3	----	-----	--------	-	-
519	15/09/2023 12:38:35.4	50.5	----	-----	--------	-	-
520	15/09/2023 12:38:36.4	50.3	----	-----	--------	-	-
521	15/09/2023 12:38:37.4	50.4	----	-----	--------	-	-
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524	15/09/2023 12:38:40.4	50.2	----	-----	--------	-	-
525	15/09/2023 12:38:41.4	50.2	----	-----	--------	-	-
526	15/09/2023 12:38:42.4	50	----	-----	--------	-	-
527	15/09/2023 12:38:43.4	50.3	----	-----	--------	-	-
528	15/09/2023 12:38:44.4	50.2	----	-----	--------	-	-
529	15/09/2023 12:38:45.4	50	----	-----	--------	-	-
530	15/09/2023 12:38:46.4	50.2	----	-----	--------	-	-
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540	15/09/2023 12:38:56.3	50.5	----	-----	--------	-	-
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543	15/09/2023 12:38:59.3	50.5	----	-----	--------	-	-
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545	15/09/2023 12:39:01.3	51.9	----	-----	--------	-	-
546	15/09/2023 12:39:02.3	50.4	----	-----	--------	-	-
547	15/09/2023 12:39:03.3	50.8	----	-----	--------	-	-
548	15/09/2023 12:39:04.3	50.6	----	-----	--------	-	-
549	15/09/2023 12:39:05.3	50.7	----	-----	--------	-	-
550	15/09/2023 12:39:06.3	50.7	----	-----	--------	-	-
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552	15/09/2023 12:39:08.2	50.2	----	-----	--------	-	-
553	15/09/2023 12:39:09.2	50.5	----	-----	--------	-	-
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556	15/09/2023 12:39:12.2	51.3	----	-----	--------	-	-
557	15/09/2023 12:39:13.2	50.8	----	-----	--------	-	-
558	15/09/2023 12:39:14.2	50.4	----	-----	--------	-	-
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561	15/09/2023 12:39:17.2	50.9	----	-----	--------	-	-

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564	15/09/2023 12:39:20.2	52.3	----	-----	--------	-	-
565	15/09/2023 12:39:21.2	52.5	----	-----	--------	-	-
566	15/09/2023 12:39:22.2	51.3	----	-----	--------	-	-
567	15/09/2023 12:39:23.2	51.4	----	-----	--------	-	-
568	15/09/2023 12:39:24.2	51.6	----	-----	--------	-	-
569	15/09/2023 12:39:25.2	52	----	-----	--------	-	-
570	15/09/2023 12:39:26.2	50.2	----	-----	--------	-	-
571	15/09/2023 12:39:27.1	50.7	----	-----	--------	-	-
572	15/09/2023 12:39:28.1	50.3	----	-----	--------	-	-
573	15/09/2023 12:39:29.1	50.4	----	-----	--------	-	-
574	15/09/2023 12:39:30.1	49.5	----	-----	--------	-	-
575	15/09/2023 12:39:31.1	49.5	----	-----	--------	-	-
576	15/09/2023 12:39:32.1	49.5	----	-----	--------	-	-
577	15/09/2023 12:39:33.1	49.8	----	-----	--------	-	-
578	15/09/2023 12:39:34.1	49.6	----	-----	--------	-	-
579	15/09/2023 12:39:35.1	49.9	----	-----	--------	-	-
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583	15/09/2023 12:39:39.1	50	----	-----	--------	-	-
584	15/09/2023 12:39:40.1	49.9	----	-----	--------	-	-
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586	15/09/2023 12:39:42.1	49.4	----	-----	--------	-	-
587	15/09/2023 12:39:43.1	49.7	----	-----	--------	-	-
588	15/09/2023 12:39:44.1	49.7	----	-----	--------	-	-
589	15/09/2023 12:39:45.1	49.1	----	-----	--------	-	-
590	15/09/2023 12:39:46.1	49.5	----	-----	--------	-	-
591	15/09/2023 12:39:47.0	49.4	----	-----	--------	-	-
592	15/09/2023 12:39:48.0	49.1	----	-----	--------	-	-
593	15/09/2023 12:39:49.0	49.6	----	-----	--------	-	-
594	15/09/2023 12:39:50.0	49.7	----	-----	--------	-	-
595	15/09/2023 12:39:51.0	49.6	----	-----	--------	-	-
596	15/09/2023 12:39:52.0	49.4	----	-----	--------	-	-
597	15/09/2023 12:39:53.0	49.3	----	-----	--------	-	-
598	15/09/2023 12:39:54.0	49.3	----	-----	--------	-	-
599	15/09/2023 12:39:55.0	49.2	----	-----	--------	-	-
600	15/09/2023 12:39:56.0	49.3	----	-----	--------	-	-
601	15/09/2023 12:39:57.0	49.2	----	-----	--------	-	-
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603	15/09/2023 12:39:59.0	49	----	-----	--------	-	-
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605	15/09/2023 12:40:01.0	49.1	----	-----	--------	-	-
606	15/09/2023 12:40:02.0	49.3	----	-----	--------	-	-
607	15/09/2023 12:40:03.0	49.1	----	-----	--------	-	-
608	15/09/2023 12:40:04.0	49.2	----	-----	--------	-	-

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611	15/09/2023 12:40:07.0	49.2	----	-----	--------	-	-
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613	15/09/2023 12:40:08.9	49.7	----	-----	--------	-	-
614	15/09/2023 12:40:09.9	49.5	----	-----	--------	-	-
615	15/09/2023 12:40:10.9	49.4	----	-----	--------	-	-
616	15/09/2023 12:40:11.9	50	----	-----	--------	-	-
617	15/09/2023 12:40:12.9	50.1	----	-----	--------	-	-
618	15/09/2023 12:40:13.9	50.6	----	-----	--------	-	-
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621	15/09/2023 12:40:16.9	49.8	----	-----	--------	-	-
622	15/09/2023 12:40:17.9	50.3	----	-----	--------	-	-
623	15/09/2023 12:40:18.9	50.5	----	-----	--------	-	-
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625	15/09/2023 12:40:20.9	50.2	----	-----	--------	-	-
626	15/09/2023 12:40:21.9	50.1	----	-----	--------	-	-
627	15/09/2023 12:40:22.9	50.3	----	-----	--------	-	-
628	15/09/2023 12:40:23.9	50.4	----	-----	--------	-	-
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631	15/09/2023 12:40:26.8	50.3	----	-----	--------	-	-
632	15/09/2023 12:40:27.8	50.5	----	-----	--------	-	-
633	15/09/2023 12:40:28.8	50.5	----	-----	--------	-	-
634	15/09/2023 12:40:29.8	50.8	----	-----	--------	-	-
635	15/09/2023 12:40:30.8	49.7	----	-----	--------	-	-
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637	15/09/2023 12:40:32.8	50.5	----	-----	--------	-	-
638	15/09/2023 12:40:33.8	50.3	----	-----	--------	-	-
639	15/09/2023 12:40:34.8	50.3	----	-----	--------	-	-
640	15/09/2023 12:40:35.8	50	----	-----	--------	-	-
641	15/09/2023 12:40:36.8	50.1	----	-----	--------	-	-
642	15/09/2023 12:40:37.8	50.4	----	-----	--------	-	-
643	15/09/2023 12:40:38.8	50.3	----	-----	--------	-	-
644	15/09/2023 12:40:39.8	50.1	----	-----	--------	-	-
645	15/09/2023 12:40:40.8	50	----	-----	--------	-	-
646	15/09/2023 12:40:41.8	49.8	----	-----	--------	-	-
647	15/09/2023 12:40:42.8	49.8	----	-----	--------	-	-
648	15/09/2023 12:40:43.8	49.9	----	-----	--------	-	-
649	15/09/2023 12:40:44.8	49.7	----	-----	--------	-	-
650	15/09/2023 12:40:45.8	50.1	----	-----	--------	-	-
651	15/09/2023 12:40:46.7	50	----	-----	--------	-	-
652	15/09/2023 12:40:47.7	49.9	----	-----	--------	-	-
653	15/09/2023 12:40:48.7	50.2	----	-----	--------	-	-
654	15/09/2023 12:40:49.7	51.1	----	-----	--------	-	-
655	15/09/2023 12:40:50.7	51	----	-----	--------	-	-

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657	15/09/2023 12:40:52.7	52.9	----	-----	--------	-	-
658	15/09/2023 12:40:53.7	53.5	----	-----	--------	-	-
659	15/09/2023 12:40:54.7	55	----	-----	--------	-	-
660	15/09/2023 12:40:55.7	58.2	----	-----	--------	-	-
661	15/09/2023 12:40:56.7	61.2	----	-----	--------	-	-
662	15/09/2023 12:40:57.7	63.1	----	-----	--------	-	-
663	15/09/2023 12:40:58.7	60.2	----	-----	--------	-	-
664	15/09/2023 12:40:59.7	56.7	----	-----	--------	-	-
665	15/09/2023 12:41:00.7	55.4	----	-----	--------	-	-
666	15/09/2023 12:41:01.7	52.8	----	-----	--------	-	-
667	15/09/2023 12:41:02.7	52.1	----	-----	--------	-	-
668	15/09/2023 12:41:03.7	51.6	----	-----	--------	-	-
669	15/09/2023 12:41:04.7	51.5	----	-----	--------	-	-
670	15/09/2023 12:41:05.7	51.7	----	-----	--------	-	-
671	15/09/2023 12:41:06.6	52	----	-----	--------	-	-
672	15/09/2023 12:41:07.6	52.2	----	-----	--------	-	-
673	15/09/2023 12:41:08.6	51.7	----	-----	--------	-	-
674	15/09/2023 12:41:09.6	52.3	----	-----	--------	-	-
675	15/09/2023 12:41:10.6	52.4	----	-----	--------	-	-
676	15/09/2023 12:41:11.6	53.9	----	-----	--------	-	-
677	15/09/2023 12:41:12.6	52.8	----	-----	--------	-	-
678	15/09/2023 12:41:13.6	52.1	----	-----	--------	-	-
679	15/09/2023 12:41:14.6	51.2	----	-----	--------	-	-
680	15/09/2023 12:41:15.6	50.9	----	-----	--------	-	-
681	15/09/2023 12:41:16.6	50.9	----	-----	--------	-	-
682	15/09/2023 12:41:17.6	51	----	-----	--------	-	-
683	15/09/2023 12:41:18.6	51.1	----	-----	--------	-	-
684	15/09/2023 12:41:19.6	51.1	----	-----	--------	-	-
685	15/09/2023 12:41:20.6	51.8	----	-----	--------	-	-
686	15/09/2023 12:41:21.6	51.4	----	-----	--------	-	-
687	15/09/2023 12:41:22.6	54	----	-----	--------	-	-
688	15/09/2023 12:41:23.6	52.7	----	-----	--------	-	-
689	15/09/2023 12:41:24.6	50.2	----	-----	--------	-	-
690	15/09/2023 12:41:25.6	50.1	----	-----	--------	-	-
691	15/09/2023 12:41:26.5	50.5	----	-----	--------	-	-
692	15/09/2023 12:41:27.5	50.4	----	-----	--------	-	-
693	15/09/2023 12:41:28.5	50	----	-----	--------	-	-
694	15/09/2023 12:41:29.5	50.1	----	-----	--------	-	-
695	15/09/2023 12:41:30.5	50.4	----	-----	--------	-	-
696	15/09/2023 12:41:31.5	50.7	----	-----	--------	-	-
697	15/09/2023 12:41:32.5	50.9	----	-----	--------	-	-
698	15/09/2023 12:41:33.5	50.1	----	-----	--------	-	-
699	15/09/2023 12:41:34.5	50.8	----	-----	--------	-	-
700	15/09/2023 12:41:35.5	50.4	----	-----	--------	-	-
701	15/09/2023 12:41:36.5	50.1	----	-----	--------	-	-
702	15/09/2023 12:41:37.5	50.6	----	-----	--------	-	-

703	15/09/2023 12:41:38.5	51.3	----	-----	--------	-	-
704	15/09/2023 12:41:39.5	50.8	----	-----	--------	-	-
705	15/09/2023 12:41:40.5	51.5	----	-----	--------	-	-
706	15/09/2023 12:41:41.5	51.2	----	-----	--------	-	-
707	15/09/2023 12:41:42.5	51.5	----	-----	--------	-	-
708	15/09/2023 12:41:43.5	51.4	----	-----	--------	-	-
709	15/09/2023 12:41:44.5	52.2	----	-----	--------	-	-
710	15/09/2023 12:41:45.5	51.3	----	-----	--------	-	-
711	15/09/2023 12:41:46.4	52.4	----	-----	--------	-	-
712	15/09/2023 12:41:47.4	53.6	----	-----	--------	-	-
713	15/09/2023 12:41:48.4	52	----	-----	--------	-	-
714	15/09/2023 12:41:49.4	52.3	----	-----	--------	-	-
715	15/09/2023 12:41:50.4	52.1	----	-----	--------	-	-
716	15/09/2023 12:41:51.4	52.3	----	-----	--------	-	-
717	15/09/2023 12:41:52.4	52.5	----	-----	--------	-	-
718	15/09/2023 12:41:53.4	52.4	----	-----	--------	-	-
719	15/09/2023 12:41:54.4	52.3	----	-----	--------	-	-
720	15/09/2023 12:41:55.4	51.6	----	-----	--------	-	-
721	15/09/2023 12:41:56.4	51.9	----	-----	--------	-	-
722	15/09/2023 12:41:57.4	52.3	----	-----	--------	-	-
723	15/09/2023 12:41:58.4	52.9	----	-----	--------	-	-
724	15/09/2023 12:41:59.4	51.6	----	-----	--------	-	-
725	15/09/2023 12:42:00.4	50.8	----	-----	--------	-	-
726	15/09/2023 12:42:01.4	51.1	----	-----	--------	-	-
727	15/09/2023 12:42:02.4	51.2	----	-----	--------	-	-
728	15/09/2023 12:42:03.4	51.3	----	-----	--------	-	-
729	15/09/2023 12:42:04.4	51	----	-----	--------	-	-
730	15/09/2023 12:42:05.4	50.6	----	-----	--------	-	-
731	15/09/2023 12:42:06.3	50.9	----	-----	--------	-	-
732	15/09/2023 12:42:07.3	50.7	----	-----	--------	-	-
733	15/09/2023 12:42:08.3	50.8	----	-----	--------	-	-
734	15/09/2023 12:42:09.3	50.8	----	-----	--------	-	-
735	15/09/2023 12:42:10.3	51.1	----	-----	--------	-	-
736	15/09/2023 12:42:11.3	50.6	----	-----	--------	-	-
737	15/09/2023 12:42:12.3	50.3	----	-----	--------	-	-
738	15/09/2023 12:42:13.3	49.9	----	-----	--------	-	-
739	15/09/2023 12:42:14.3	50	----	-----	--------	-	-
740	15/09/2023 12:42:15.3	49.6	----	-----	--------	-	-
741	15/09/2023 12:42:16.3	49.9	----	-----	--------	-	-
742	15/09/2023 12:42:17.3	49.7	----	-----	--------	-	-
743	15/09/2023 12:42:18.3	50	----	-----	--------	-	-
744	15/09/2023 12:42:19.3	49.8	----	-----	--------	-	-
745	15/09/2023 12:42:20.3	50	----	-----	--------	-	-
746	15/09/2023 12:42:21.3	50.3	----	-----	--------	-	-
747	15/09/2023 12:42:22.3	49.7	----	-----	--------	-	-
748	15/09/2023 12:42:23.3	49.7	----	-----	--------	-	-
749	15/09/2023 12:42:24.3	49.7	----	-----	--------	-	-

750	15/09/2023 12:42:25.3	49.7	----	-----	--------	-	-
751	15/09/2023 12:42:26.2	49.7	----	-----	--------	-	-
752	15/09/2023 12:42:27.2	49.9	----	-----	--------	-	-
753	15/09/2023 12:42:28.2	50.5	----	-----	--------	-	-
754	15/09/2023 12:42:29.2	50	----	-----	--------	-	-
755	15/09/2023 12:42:30.2	49.8	----	-----	--------	-	-
756	15/09/2023 12:42:31.2	49.4	----	-----	--------	-	-
757	15/09/2023 12:42:32.2	50.4	----	-----	--------	-	-
758	15/09/2023 12:42:33.2	49.8	----	-----	--------	-	-
759	15/09/2023 12:42:34.2	49.5	----	-----	--------	-	-
760	15/09/2023 12:42:35.2	49.9	----	-----	--------	-	-
761	15/09/2023 12:42:36.2	50	----	-----	--------	-	-
762	15/09/2023 12:42:37.2	50.3	----	-----	--------	-	-
763	15/09/2023 12:42:38.2	50.1	----	-----	--------	-	-
764	15/09/2023 12:42:39.2	49.9	----	-----	--------	-	-
765	15/09/2023 12:42:40.2	50	----	-----	--------	-	-
766	15/09/2023 12:42:41.2	50.1	----	-----	--------	-	-
767	15/09/2023 12:42:42.2	49.6	----	-----	--------	-	-
768	15/09/2023 12:42:43.2	49.7	----	-----	--------	-	-
769	15/09/2023 12:42:44.2	49.6	----	-----	--------	-	-
770	15/09/2023 12:42:45.2	49.9	----	-----	--------	-	-
771	15/09/2023 12:42:46.1	50.1	----	-----	--------	-	-
772	15/09/2023 12:42:47.1	49.9	----	-----	--------	-	-
773	15/09/2023 12:42:48.1	50.2	----	-----	--------	-	-
774	15/09/2023 12:42:49.1	50.3	----	-----	--------	-	-
775	15/09/2023 12:42:50.1	50.4	----	-----	--------	-	-
776	15/09/2023 12:42:51.1	50.3	----	-----	--------	-	-
777	15/09/2023 12:42:52.1	50.6	----	-----	--------	-	-
778	15/09/2023 12:42:53.1	51.1	----	-----	--------	-	-
779	15/09/2023 12:42:54.1	50.7	----	-----	--------	-	-
780	15/09/2023 12:42:55.1	51.2	----	-----	--------	-	-
781	15/09/2023 12:42:56.1	50.9	----	-----	--------	-	-
782	15/09/2023 12:42:57.1	51.4	----	-----	--------	-	-
783	15/09/2023 12:42:58.1	50.8	----	-----	--------	-	-
784	15/09/2023 12:42:59.1	51.2	----	-----	--------	-	-
785	15/09/2023 12:43:00.1	51.5	----	-----	--------	-	-
786	15/09/2023 12:43:01.1	51.4	----	-----	--------	-	-
787	15/09/2023 12:43:02.1	51.4	----	-----	--------	-	-
788	15/09/2023 12:43:03.1	52	----	-----	--------	-	-
789	15/09/2023 12:43:04.1	53	----	-----	--------	-	-
790	15/09/2023 12:43:05.1	53.5	----	-----	--------	-	-
791	15/09/2023 12:43:06.0	52.6	----	-----	--------	-	-
792	15/09/2023 12:43:07.0	51.8	----	-----	--------	-	-
793	15/09/2023 12:43:08.0	51.9	----	-----	--------	-	-
794	15/09/2023 12:43:09.0	52.2	----	-----	--------	-	-
795	15/09/2023 12:43:10.0	52.8	----	-----	--------	-	-
796	15/09/2023 12:43:11.0	51.1	----	-----	--------	-	-

797	15/09/2023 12:43:12.0	50.3	----	-----	--------	-	-
798	15/09/2023 12:43:13.0	50.8	----	-----	--------	-	-
799	15/09/2023 12:43:14.0	50.2	----	-----	--------	-	-
800	15/09/2023 12:43:15.0	50.8	----	-----	--------	-	-
801	15/09/2023 12:43:16.0	51.2	----	-----	--------	-	-
802	15/09/2023 12:43:17.0	49.8	----	-----	--------	-	-
803	15/09/2023 12:43:18.0	50.3	----	-----	--------	-	-
804	15/09/2023 12:43:19.0	50.6	----	-----	--------	-	-
805	15/09/2023 12:43:20.0	50.5	----	-----	--------	-	-
806	15/09/2023 12:43:21.0	51.3	----	-----	--------	-	-
807	15/09/2023 12:43:22.0	50.7	----	-----	--------	-	-
808	15/09/2023 12:43:23.0	51.6	----	-----	--------	-	-
809	15/09/2023 12:43:24.0	51.7	----	-----	--------	-	-
810	15/09/2023 12:43:25.0	51.1	----	-----	--------	-	-
811	15/09/2023 12:43:26.0	49.3	----	-----	--------	-	-
812	15/09/2023 12:43:26.9	49.5	----	-----	--------	-	-
813	15/09/2023 12:43:27.9	50.7	----	-----	--------	-	-
814	15/09/2023 12:43:28.9	50.7	----	-----	--------	-	-
815	15/09/2023 12:43:29.9	50.1	----	-----	--------	-	-
816	15/09/2023 12:43:30.9	59.4	----	-----	--------	-	-
817	15/09/2023 12:43:31.9	49.9	----	-----	--------	-	-
818	15/09/2023 12:43:32.9	49.9	----	-----	--------	-	-
819	15/09/2023 12:43:33.9	49.4	----	-----	--------	-	-
820	15/09/2023 12:43:34.9	48.6	----	-----	--------	-	-
821	15/09/2023 12:43:35.9	49.2	----	-----	--------	-	-
822	15/09/2023 12:43:36.9	49	----	-----	--------	-	-
823	15/09/2023 12:43:37.9	49.5	----	-----	--------	-	-
824	15/09/2023 12:43:38.9	49.9	----	-----	--------	-	-
825	15/09/2023 12:43:39.9	49.2	----	-----	--------	-	-
826	15/09/2023 12:43:40.9	49.1	----	-----	--------	-	-
827	15/09/2023 12:43:41.9	51.5	----	-----	--------	-	-
828	15/09/2023 12:43:42.9	53.3	----	-----	--------	-	-
829	15/09/2023 12:43:43.9	55.9	----	-----	--------	-	-
830	15/09/2023 12:43:44.9	58.4	----	-----	--------	-	-
831	15/09/2023 12:43:45.8	53.8	----	-----	--------	-	-
832	15/09/2023 12:43:46.8	56.4	----	-----	--------	-	-
833	15/09/2023 12:43:47.8	49.4	----	-----	--------	-	-
834	15/09/2023 12:43:48.8	51.5	----	-----	--------	-	-
835	15/09/2023 12:43:49.8	50.3	----	-----	--------	-	-
836	15/09/2023 12:43:50.8	49.6	----	-----	--------	-	-
837	15/09/2023 12:43:51.8	49.7	----	-----	--------	-	-
838	15/09/2023 12:43:52.8	49.9	----	-----	--------	-	-
839	15/09/2023 12:43:53.8	52.1	----	-----	--------	-	-
840	15/09/2023 12:43:54.8	53.3	----	-----	--------	-	-
841	15/09/2023 12:43:55.8	56.5	----	-----	--------	-	-
842	15/09/2023 12:43:56.8	51.9	----	-----	--------	-	-
843	15/09/2023 12:43:57.8	51.8	----	-----	--------	-	-

844	15/09/2023 12:43:58.8	50.4	----	-----	--------	-	-
845	15/09/2023 12:43:59.8	49	----	-----	--------	-	-
846	15/09/2023 12:44:00.8	49.7	----	-----	--------	-	-
847	15/09/2023 12:44:01.8	49	----	-----	--------	-	-
848	15/09/2023 12:44:02.8	53.9	----	-----	--------	-	-
849	15/09/2023 12:44:03.8	52.7	----	-----	--------	-	-
850	15/09/2023 12:44:04.8	53.3	----	-----	--------	-	-
851	15/09/2023 12:44:05.7	55.7	----	-----	--------	-	-
852	15/09/2023 12:44:06.7	54.9	----	-----	--------	-	-
853	15/09/2023 12:44:07.7	58	----	-----	--------	-	-
854	15/09/2023 12:44:08.7	59	----	-----	--------	-	-
855	15/09/2023 12:44:09.7	61.6	----	-----	--------	-	-
856	15/09/2023 12:44:10.7	64.6	----	-----	--------	-	-
857	15/09/2023 12:44:11.7	62	----	-----	--------	-	-
858	15/09/2023 12:44:12.7	58.8	----	-----	--------	-	-
859	15/09/2023 12:44:13.7	56	----	-----	--------	-	-
860	15/09/2023 12:44:14.7	54.9	----	-----	--------	-	-
861	15/09/2023 12:44:15.7	53.6	----	-----	--------	-	-
862	15/09/2023 12:44:16.7	53.5	----	-----	--------	-	-
863	15/09/2023 12:44:17.7	53.3	----	-----	--------	-	-
864	15/09/2023 12:44:18.7	53.6	----	-----	--------	-	-
865	15/09/2023 12:44:19.7	53	----	-----	--------	-	-
866	15/09/2023 12:44:20.7	52.3	----	-----	--------	-	-
867	15/09/2023 12:44:21.7	52.3	----	-----	--------	-	-
868	15/09/2023 12:44:22.7	52.8	----	-----	--------	-	-
869	15/09/2023 12:44:23.7	53.7	----	-----	--------	-	-
870	15/09/2023 12:44:24.7	52	----	-----	--------	-	-
871	15/09/2023 12:44:25.6	53.6	----	-----	--------	-	-
872	15/09/2023 12:44:26.6	53.6	----	-----	--------	-	-
873	15/09/2023 12:44:27.6	53.4	----	-----	--------	-	-
874	15/09/2023 12:44:28.6	52.4	----	-----	--------	-	-
875	15/09/2023 12:44:29.6	51.8	----	-----	--------	-	-
876	15/09/2023 12:44:30.6	51.4	----	-----	--------	-	-
877	15/09/2023 12:44:31.6	50.8	----	-----	--------	-	-
878	15/09/2023 12:44:32.6	49.5	----	-----	--------	-	-
879	15/09/2023 12:44:33.6	50.2	----	-----	--------	-	-
880	15/09/2023 12:44:34.6	51.7	----	-----	--------	-	-
881	15/09/2023 12:44:35.6	49.4	----	-----	--------	-	-
882	15/09/2023 12:44:36.6	52.8	----	-----	--------	-	-
883	15/09/2023 12:44:37.6	52.6	----	-----	--------	-	-
884	15/09/2023 12:44:38.6	54	----	-----	--------	-	-
885	15/09/2023 12:44:39.6	56.5	----	-----	--------	-	-
886	15/09/2023 12:44:40.6	54.9	----	-----	--------	-	-
887	15/09/2023 12:44:41.6	48.9	----	-----	--------	-	-
888	15/09/2023 12:44:42.6	48.5	----	-----	--------	-	-
889	15/09/2023 12:44:43.6	47.8	----	-----	--------	-	-
890	15/09/2023 12:44:44.6	47	----	-----	--------	-	-

891	15/09/2023 12:44:45.5	51.6	----	-----	--------	-	-
892	15/09/2023 12:44:46.5	46.1	----	-----	--------	-	-
893	15/09/2023 12:44:47.5	49.9	----	-----	--------	-	-
894	15/09/2023 12:44:48.5	46.6	----	-----	--------	-	-
895	15/09/2023 12:44:49.5	46.9	----	-----	--------	-	-
896	15/09/2023 12:44:50.5	46.4	----	-----	--------	-	-
897	15/09/2023 12:44:51.5	46.3	----	-----	--------	-	-
898	15/09/2023 12:44:52.5	46.4	----	-----	--------	-	-
899	15/09/2023 12:44:53.5	47	----	-----	--------	-	-
900	15/09/2023 12:44:54.5	46.4	----	-----	--------	-	-

ST3

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	9/15/2023 12:30	00d 00:15:	56.3	83.9	74.4	43.1	-.-	52.3	47.5	50	48.9	46.9	----	-----

Construction Noise Model Input / Output

rdered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demoliton	Excavator	1	40	81	2500	0		47.0	8	480	43
	Dozer	1	40	82	2500	0		48.0	8	480	44
	Excavator	1	40	81	2500	0		47.0	8	480	43
	Concrete Saw	1	20	90	2500	0		56.0	8	480	49
	Excavator	1	40	81	2500	0		47.0	8	480	43
	Dozer	1	40	82	2500	0		48.0	8	480	44
								Total Aggregate Noise Exposure from Demoliton Phase			**52.7**
Site Preparation	Front End Loader	1	40	79	2500	0		45.0	8	480	41
	Dozer	1	40	82	2500	0		48.0	8	480	44
	Tractor	1	40	84	2500	0		50.0	8	480	46
	Dozer	1	40	82	2500	0		48.0	8	480	44
	Backhoe	1	40	78	2500	0		44.0	8	480	40
	Dozer	1	40	82	2500	0		48.0	8	480	44
	Tractor	1	40	84	2500	0		50.0	8	480	46
								Total Aggregate Noise Exposure from Site Preparation Phase			**52.5**
Grading	Excavator	1	40	81	2500	0		47.0	8	480	43
	Grader	1	40	85	2500	0		51.0	8	480	47
	Scraper	1	40	84	2500	0		50.0	8	480	46
	Excavator	1	40	81	2500	0		47.0	8	480	43
	Dozer	1	40	82	2500	0		48.0	8	480	44
	Tractor	1	40	84	2500	0		50.0	8	480	46
	Scraper	1	40	84	2500	0		50.0	8	480	46
	Front End Loader	1	40	79	2500	0		45.0	8	480	41
								Total Aggregate Noise Exposure from Grading Phase			**53.9**
Building Construction	Crane	1	16	81	2500	0		47.0	7	420	38
	Front end loader	1	40	79	2500	0		45.0	7	420	40
	Man Lift	1	20	75	2500	0		41.0	8	480	34
	welder / torch	1	40	73	2500	0		39.0	8	480	35
	Generator	1	50	72	2500	0		38.0	8	480	35
	Backhoe	1	40	78	2500	0		44.0	7	420	39
	Man Lift	1	20	75	2500	0		41.0	8	480	34
	Tractor	1	40	84	2500	0		50.0	7	420	45
	Man Lift	1	20	75	2500	0		41.0	8	480	34
								Total Aggregate Noise Exposure from Building Construction Phase			**48.8**
Paving	Concrete Mixer Truck	1	40	79	2500	0		45.0	8	480	41
	Paver	1	50	77	2500	0		43.0	8	480	40
	Roller	1	20	80	2500	0		46.0	8	480	39
	Paver	1	50	77	2500	0		43.0	8	480	40
	Concrete Pump Truck	1	20	81	2500	0		47.0	8	480	40
	Roller	1	20	80	2500	0		46.0	8	480	39
								Total Aggregate Noise Exposure from Paving Phase			**47.6**
Architectural Coating	Compressor (Air)	1	40	78	2500	0		44.0	6	360	39
								Total Aggregate Noise Exposure from Architectural Coating Phase			**38.7**

To User: bordered cells are inputs, unbordered cells have formulae
enter "0" to turn off air or grnd absorption terms, "1" to turn on

air abs? 0
grnd abs? 0

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

Project Phase No.	Project Phase Description	Comparable FHWA RCNM Construction Equipment Type	Quantity	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
1	Demoliton	Excavator	1	40	81	700	0		58.0	8	480	54
		Dozer	1	40	82	700	0		59.0	8	480	55
		Excavator	1	40	81	700	0		58.0	8	480	54
		Concrete Saw	1	20	90	700	0		67.0	8	480	60
		Excavator	1	40	81	700	0		58.0	8	480	54
		Dozer	1	40	82	700	0		59.0	8	480	55
									Total Aggregate Noise Exposure from Demoliton Phase			**63.8**
2	Site Preparation	Front End Loader	1	40	79	700	0		56.0	8	480	52
		Dozer	1	40	82	700	0		59.0	8	480	55
		Tractor	1	40	84	700	0		61.0	8	480	57
		Dozer	1	40	82	700	0		59.0	8	480	55
		Backhoe	1	40	78	700	0		55.0	8	480	51
		Dozer	1	40	82	700	0		59.0	8	480	55
		Tractor	1	40	84	700	0		61.0	8	480	57
									Total Aggregate Noise Exposure from Site Preparation Phase			**63.5**
3	Grading	Excavator	1	40	81	700	0		58.0	8	480	54
		Grader	1	40	85	700	0		62.0	8	480	58
		Scraper	1	40	84	700	0		61.0	8	480	57
		Excavator	1	40	81	700	0		58.0	8	480	54
		Dozer	1	40	82	700	0		59.0	8	480	55
		Tractor	1	40	84	700	0		61.0	8	480	57
		Scraper	1	40	84	700	0		61.0	8	480	57
		Front End Loader	1	40	79	700	0		56.0	8	480	52
									Total Aggregate Noise Exposure from Grading Phase			**65.0**
4	Building Construction	Crane	1	16	81	700	0		58.0	7	420	49
		Front end loader	1	40	79	700	0		56.0	7	420	51
		Man Lift	1	20	75	700	0		52.0	8	480	45
		welder / torch	1	40	73	700	0		50.0	8	480	46
		Generator	1	50	72	700	0		49.0	8	480	46
		Backhoe	1	40	78	700	0		55.0	7	420	50
		Man Lift	1	20	75	700	0		52.0	8	480	45
		Tractor	1	40	84	700	0		61.0	7	420	56
		Man Lift	1	20	75	700	0		52.0	8	480	45
									Total Aggregate Noise Exposure from Building Construction Phase			**59.8**
5	Paving	Concrete Mixer Truck	1	40	79	700	0		56.0	8	480	52
		Paver	1	50	77	700	0		54.0	8	480	51
		Roller	1	20	80	700	0		57.0	8	480	50
		Paver	1	50	77	700	0		54.0	8	480	51
		Concrete Pump Truck	1	20	81	700	0		58.0	8	480	51
		Roller	1	20	80	700	0		57.0	8	480	50
									Total Aggregate Noise Exposure from Paving Phase			**58.7**
5	Architectural Coating	Compressor (Air)	1	40	78	700	0		55.0	6	360	50
									Total Aggregate Noise Exposure from Architectural Coating Phase			**49.8**

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Lesser of or available Lmax	Spec. 721 Lmax	Measured L_{max} @50ft (dBA, slow)
All Other Equipment > 5 HP	No	50	85	85	-- N/A --
Auger Drill Rig	No	20	84	85	84
Backhoe	No	40	78	80	78
Bar Bender	No	20	80	80	-- N/A --
Blasting	Yes	-- N/A --	94	94	-- N/A --
Boring Jack Power Unit	No	50	80	80	83
Chain Saw	No	20	84	85	84
Clam Shovel (dropping)	Yes	20	87	93	87
Compactor (ground)	No	20	80	80	83
Compressor (air)	No	40	78	80	78
Concrete Batch Plant	No	15	83	83	-- N/A --
Concrete Mixer Truck	No	40	79	85	79
Concrete Pump Truck	No	20	81	82	81
Concrete Saw	No	20	90	90	90
Crane	No	16	81	85	81
Dozer	No	40	82	85	82
Drill Rig Truck	No	20	79	84	79
Drum Mixer	No	50	80	80	80
Dump Truck	No	40	76	84	76
Excavator	No	40	81	85	81
Flat Bed Truck	No	40	74	84	74
Front End Loader	No	40	79	80	79
Generator	No	50	72	72	81
Generator (<25KVA, VMS signs)	No	50	70	70	73
Gradall	No	40	83	85	83
Grader	No	40	85	85	-- N/A --
Grapple (on backhoe)	No	40	85	85	87
Horizontal Boring Hydr. Jack	No	25	80	80	82
Hydra Break Ram	Yes	10	90	90	-- N/A --
Impact Pile Driver	Yes	20	95	95	101
Jackhammer	Yes	20	85	85	89
Man Lift	No	20	75	85	75
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	90
Pavement Scarafier	No	20	85	85	90
Paver	No	50	77	85	77
Pickup Truck	No	40	55	55	75
Pneumatic Tools	No	50	85	85	85
Pumps	No	50	77	77	81
Refrigerator Unit	No	100	73	82	73
Rivit Buster/chipping gun	Yes	20	79	85	79
Rock Drill	No	20	81	85	81
Roller	No	20	80	85	80
Sand Blasting (Single Nozzle)	No	20	85	85	96
Scraper	No	40	84	85	84
Shears (on backhoe)	No	40	85	85	96
*Skidsteer**	*No*	*40*	*80*	*-- N/A --*	*-- N/A --*
Slurry Plant	No	100	78	78	78
Slurry Trenching Machine	No	50	80	82	80
Soil Mix Drill Rig	No	50	80	80	-- N/A --
Tractor	No	40	84	84	-- N/A --
Vacuum Excavator (Vac-truck)	No	40	85	85	85
Vacuum Street Sweeper	No	10	80	80	82
Ventilation Fan	No	100	79	85	79
Vibrating Hopper	No	50	85	85	87
Vibratory Concrete Mixer	No	20	80	80	80
Vibratory Pile Driver	No	20	95	95	101
Warning Horn	No	5	83	85	83
Welder / Torch	No	40	73	73	74

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Mechanical Noise Calculations

from CMS "Midpoint at 237" March 27, 2014 noise study				Dudek time estimate			
	dBA	dist (feet)	at 50'	minutes per hour	hourly Leq	source	PWL
truck passby	68	30	63.6	2	48.8	**traveling on lot**	**83.5**
truck airbrakes	72	25	66.0	0.05	35.2	at dock	69.8
truck backup alarm	79	30	74.6	0.1	46.8	at dock	81.4
idle before shutoff	70	25	64.0	5	53.2	at dock	87.8
truck engine ignition + airbrakes	71	25	65.0	0.05	34.2	at dock	68.8
truck accelerating from stop	74	25	68.0	0.05	37.2	at dock	71.8
						total at dock	**88.9**

dock door quantities from 5/2/23 siteplan		peak hour trips*	split**	log add***
Building 1	docks	17		
east	38		1.0	12.3

*(3 and 4-axle trucks)
**(based on dock ratio for the building)
***(to single truck noise levels)

Bericht (Future w Project w Generator.cna)

Gruppentabelle Tag und Nacht

Name	Expression	Partial Sum Level					
		M1		ST2		ST3	
		Day	Night	Day	Night	Day	Night

Source			Partial Level					
Name	M.	ID	M1		ST2		ST3	
			Day	Night	Day	Night	Day	Night
HVAC 1			27.2	27.2	13.5	13.5	14.5	14.5
HVAC 2			26.7	26.7	13.4	13.4	14.6	14.6
Standby Generator			61.0	61.0	44.0	44.0	45.0	45.0
			38.8	38.8	20.9	20.9	21.7	21.7
			18.6	18.6	29.7	29.7	29.7	29.7

Schallquellen

Punktquellen

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Tim		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	
HVAC 1			89.0	89.0	89.0	Lw	89		0.0	0.0	0.0						
HVAC 2			89.0	89.0	89.0	Lw	89		0.0	0.0	0.0						
Standby Generator			114.8	114.8	114.8	Lw	114.8		0.0	0.0	0.0						

Linienquellen

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Ope
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)
			95.8	95.8	95.8	70.8	70.8	70.8	Lw	95.8		0.0	0.0	0.0				
			101.2	101.2	101.2	79.3	79.3	79.3	Lw	101.2		0.0	0.0	0.0				

Flächenquellen

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Ope
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)

Flächenquellen vertikal

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Ope
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m²)		(min)

Schienen

Name	M.	ID	Lm,E		Train Class	Add.Level				Vmax
			Day	Night		Dfb	Dbr	Dbü	Dra	
			(dBA)	(dBA)		(dB)	(dB)	(dB)	(dB)	(km/h)

Zugklassen

Name	M.	ID	Lm,E		Train Class										Add.Level				Vmax
			Day	Night	Type	p	Number of Trains			v	l	Dfz	Dae	Lm,E,i (dB)		Dfb	Dbr	Dbü	Dra	
			(dBA)	(dBA)		(%)	Day	Evening	Night	(km/h)	(m)	(dB)	(dB)	Day	Night	(dB)	(dB)	(dB)	(dB)	(km/h)

Name	Lm,E		Train Class									
	Day	Night	Type	p	Number of Trains			v	l	Dfz	Dae	Lm,E,i (dB)	
	(dBA)	(dBA)		(%)	Day	Evening	Night	(km/h)	(m)	(dB)	(dB)	Day	Night

Parkplätze

Name	M.	ID	Type	Lwa			Event Data						Penalty Type		Penalty Surface	
				Day	Special	Night	Ref. Quantity	Number B	No. Spaces/RefQ	Events/h/RefQ			Kpa	Type	Kstro	Surface
				(dBA)	(dBA)	(dBA)				Day	Special	Night	(dB)		(dB)	

Strassen

Name	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Grad
			Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type	
			(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(km/h)	(km/h)		(dB)		(%

Ampeln

Name	M.	ID	Active			Height	Coordinates		
			Day	Evening	Night	Begin	X	Y	Z
						(m)	(m)	(m)	(m)

Immissionspunkte

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
M1			61.0	61.0	0.0	0.0		x	Total	4.00	r	572.55	1077.94	4.00
ST2			44.2	44.2	0.0	0.0		x	Total	4.00	r	1331.96	1002.84	4.00
ST3			45.2	45.2	0.0	0.0		x	Total	4.00	r	968.70	621.80	4.00

Gebietsausweisungen

Name	M.	ID	Type	Persons
				(1/km²)

Hindernisse

Schirme

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			
			left	right		horz.	vert.	Begin		End	
					(m)	(m)	(m)	(m)		(m)	
								15.85	r	15.85	r

Häuser

Name	M.	ID	RB	Residents	Absorption	Height
						Begin
						(m)

Bewuchs

Name	M.	ID	Height
			(m)

Bebauung

Name	M.	ID	Type	Attenuation	B	m	Height
				dB/100m	%	1/m	(m)

Geometriedaten

Geometrie Linienquellen

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)
	1.52	r	1.52	r	514.07	1156.28	1.52	0.00
					631.01	1157.62	1.52	0.00
					629.67	1327.99	1.52	0.00
					599.43	1327.65	1.52	0.00
	2.44	r	2.44	r	600.45	1251.13	2.44	0.00
					598.34	1406.09	2.44	0.00

Geometrie Flächenquellen

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)

Geometrie Parkplätze

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)

Geometrie Straßen

Name	Height				Coordinates				Dist	LSlope
	Begin		End		x	y	z	Ground	(m)	(%)
	(m)		(m)		(m)	(m)	(m)	(m)		

Geometrie Schienen

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(m)		(m)		(m)	(m)	(m)	(m)

Geometrie Schirme

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height				Coordinates			
			left	right		horz.	vert.	Begin		End		x	y	z	Ground
					(m)	(m)	(m)	(m)		(m)		(m)	(m)	(m)	(m)
								15.85	r	15.85	r	534.88	1411.16	15.85	0.00
												594.89	1411.16	15.85	0.00
												597.82	1241.80	15.85	0.00
												615.43	1242.07	15.85	0.00
												616.10	1195.53	15.85	0.00
												539.32	1194.52	15.85	0.00
												535.18	1411.35	15.85	0.00

Geometrie Häuser

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
						Begin	x	y	z	Ground
						(m)	(m)	(m)	(m)	(m)

Geometrie Höhenlinien

Name	M.	ID	OnlyPts	Height		Coordinates		
				Begin	End	x	y	z
				(m)	(m)	(m)	(m)	(m)

Geometrie Bruchkanten

Name	M.	ID	Coordinates	
			x	y
			(m)	(m)

GENERAC | INDUSTRIAL POWER

SD100 application and engineering data

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu. in.)	6.7
Bore - mm (in.)	104 (4.09)
Stroke - mm (in.)	128 (5.2)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	2- Valve
Piston Type	Alloy Aluminum

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	± 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow Cartridge
Crankcase Capacity - L (qts)	17 (18)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Flow	Belt Driven Centrifugal
Fan Type	Pusher
Fan Speed (rpm)	2538 rpm
Fan Diameter mm (in.)	599 (23.6)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120VAC

Fuel System

Fuel Type*	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump Make	Stanadyne
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	12.7(1/2")
Fuel Return Line - mm (in.)	12.7(1/2")

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator	Std
Battery Size (at 0°C)	995 CCA
Battery Group	31
Battery Voltage	(1) 12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390 mm Generac
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Synchronous Brushless
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	± 0.25%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A-S	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1

Rating Definitions:
Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)
Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 60%) A 10% overload capacity is available for 1 out of every 12 hours.

GENERAC | INDUSTRIAL POWER

SD100 application and engineering data

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu. in.)	6.7
Bore - mm (in.)	104 (4.09)
Stroke - mm (in.)	128 (5.2)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	2- Valve
Piston Type	Alloy Aluminum

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	± 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow Cartridge
Crankcase Capacity - L (qts)	17 (18)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Flow	Belt Driven Centrifugal
Fan Type	Pusher
Fan Speed (rpm)	2538 rpm
Fan Diameter mm (in.)	599 (23.6)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120VAC

Fuel System

Fuel Type*	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump Make	Stanadyne
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	12.7(½")
Fuel Return Line - mm (in.)	12.7(½")

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator	Std
Battery Size (at 0°C)	996 CCA
Battery Group	31
Battery Voltage	(1) 12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390 mm Generac
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Synchronous Brushless
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	± 0.25%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A.5	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1

Rating Definitions:
Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)
Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

SD100 operating data (60Hz)

POWER RATINGS (kW)

	STANDBY		PRIME	
Single-Phase 120/240VAC @1.0pf	100 kW	Amps: 417	80 kW	Amps: 333
Three-Phase 120/208VAC @0.8pf	100 kW	Amps: 347	80 kW	Amps: 278
Three-Phase 120/240VAC @0.8pf	100 kW	Amps: 301	80 kW	Amps: 241
Three-Phase 277/480VAC @0.8pf	100 kW	Amps: 150	80 kW	Amps: 120
Three-Phase 346/600VAC @0.8pf	100 kW	Amps: 120	80 kW	Amps: 96

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480VAC						208/240VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	100	79	118	157	197	236	275	59	89	118	148	177	206
Upsize 1	130	116	174	232	290	348	406	87	131	174	218	261	305

FUEL

Fuel Pump Lift - in (mm)
36 (900)

Total Fuel Requirement Capacity - gph
29.1

Fuel Consumption Rates*

STANDBY			PRIME		
Percent Load	gph	lph	Percent Load	gph	lph
25%	2.2	8.3	25%	2	7.6
50%	4.2	15.9	50%	3.8	14.4
75%	5.9	22.3	75%	5.3	20.1
100%	7.3	27.6	100%	6.6	25.0

* Refer to "Emissions Data Sheet" for maximum fuel flow for EPA and SCAQMD permitting purposes.

COOLING

		STANDBY	PRIME
Coolant Flow per Minute	gpm (lpm)	44.6 (168.8)	44.6 (168.8)
Heat Rejection to Coolant	BTU/hr	269,130	243,330
Inlet Air	cfm (m3/min)	7,900 (223.7)	6,360 (180)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)	122 (50)
Max. Operating Ambient Temperature	F° (C°)	104 (40)	104 (40)
Coolant System Capacity	gal (L)	12.2 (46.2)	(4.5) 17.44
Maximum Radiator Backpressure	in H_2O	1.5	1.5

COMBUSTION AIR REQUIREMENTS

		STANDBY	PRIME
Flow at Rated Power	cfm (m3/min)	325 (9.2)	293 (8.3)

ENGINE

		STANDBY	PRIME
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW**	hp	152	113
Piston Speed	ft/min	1559	1559
BMEP	psi	164	148

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

		STANDBY	PRIME
Exhaust Flow (Rated Output)	cfm (m^3/min)	885 (25)	832 (23.5)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	885 (474)	797 (425)
Exhaust Outlet Size (Open Set)	NPT (male)	101.6 (4)	101.6 (4)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

GENERAC | INDUSTRIAL POWER

SD100

standard features and options

GENERATOR SET

●	Genset Vibration Isolation	Std
○	IBC Seismic Certified/Seismic Rated Vibration Isolators	Opt
○	Extended warranty	Opt
○	Gen-Link Communications Software	Opt
○	Steel Enclosure	Opt
○	Aluminum Enclosure	Opt

ENGINE SYSTEM

General

●	Oil Drain Extension	Std
○	Oil Make-Up System	Opt
○	Oil Heater	Opt
●	Air cleaner	Std
●	Fan guard	Std
●	Radiator duct adapter	Std

Fuel System

●	Fuel lockoff solenoid	Std
●	Secondary fuel filter	Std
●	Stainless steel flexible exhaust connection	Std
●	Industrial Exhaust Silencer	Std
○	Critical Exhaust Silencer	Opt
○	Flexible fuel lines	Opt
○	Primary fuel filter	Opt
○	Single Wall Tank (Export Only)	-
○	UL 142 Fuel Tank	Opt

Cooling System

○	120VAC Coolant Heater	Opt
○	208VAC Coolant Heater	Opt
○	240VAC Coolant Heater	Opt
○	Other Coolant Heater_____	-
●	Closed Coolant Recovery System	Std
●	UV/Ozone resistant hoses	Std
●	Factory-Installed Radiator	Std
●	Radiator Drain Extension	Std

Engine Electrical System

●	Battery charging alternator	Std
●	Battery cables	Std
●	Battery tray	Std
○	Battery box	Opt
○	Battery heater	Opt
●	Solenoid activated starter motor	Std
○	2.5A UL battery charger	Opt
○	10A UL float/equalize battery charger	Opt
●	Rubber-booted engine electrical connections	Std

ALTERNATOR SYSTEM

●	UL2200 GENprotectTM	Std
○	Main Line Circuit Breaker	Opt
○	2nd Circuit Breaker	Opt
○	3rd Circuit Breaker	-
○	Alternator Upsizing	Opt
○	Anti-Condensation Heater	Opt
○	Tropical coating	Opt
○	Permanent Magnet Generator	Opt

CONTROL SYSTEM

Control Panel

●	Digital H Control Panel - Dual 4x20 Display	Std
○	Digital G-100 Control Panel - Touchscreen	na
○	Digital G-200 Paralleling Control Panel - Touchscreen	na
●	Programmable Crank Limiter	Std
○	21-Light Remote Annunciator	Opt
○	Remote Relay Panel (8 or 16)	Opt
●	7-Day Programmable Exerciser	Std
●	Special Applications Programmable PLC	Std
●	RS-232	Std
●	RS-485	Std
●	All-Phase Sensing DVR	Std
●	Full System Status	Std
●	Utility Monitoring (Req. H-Transfer Switch)	Std
●	2-Wire Start Compatible	Std
●	Power Output (kW)	Std
●	Power Factor	Std
●	Reactive Power	Std
●	All phase AC Voltage	Std
●	All phase Currents	Std
●	Oil Pressure	Std
●	Coolant Temperature	Std
●	Coolant Level	Std
○	Oil Temperature	Opt
●	Fuel Pressure	Std
●	Engine Speed	Std
●	Battery Voltage	Std
●	Frequency	Std
●	Date/Time Fault History (Event Log)	Std
○	Low-Speed Exercise	-
●	Isochronous Governor Control	Std
●	-40deg C - 70deg C Operation	Std
●	Waterproof Plug-In Connectors	Std
●	Audible Alarms and Shutdowns	Std
●	Not in Auto (Flashing Light)	Std
●	Auto/Off/Manual Switch	Std
●	E-Stop (Red Mushroom-Type)	Std
○	Remote E-Stop (Break Glass-Type, Surface Mount)	Opt
○	Remote E-Stop (Red Mushroom-Type, Surface Mount)	Opt
○	Remote E-Stop (Red Mushroom-Type, Flush Mount)	Opt
●	NFPA 110 Level I and II (Programmable)	Std
●	Remote Communication - RS232	Std
○	Remote Communication - Modem	Opt
○	Remote Communication - Ethernet	Opt
○	10A Run Relay	Opt

Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)

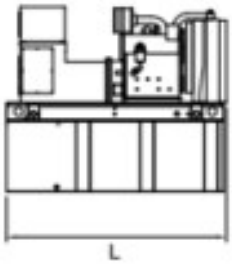
○	Low Fuel	Opt
●	Oil Pressure (Pre-programmed Low Pressure Shutdown)	Std
●	Coolant Temperature (Pre-programmed High Temp Shutdown)	Std
●	Coolant Level (Pre-programmed Low Level Shutdown)	Std
○	Oil Temperature	Opt
●	Engine Speed (Pre-programmed Overspeed Shutdown)	Std
●	Voltage (Pre-programmed Overvoltage Shutdown)	Std
●	Battery Voltage	Std

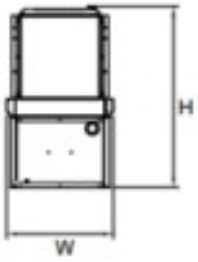
Other Options

○	_____	
○	_____	

SD100

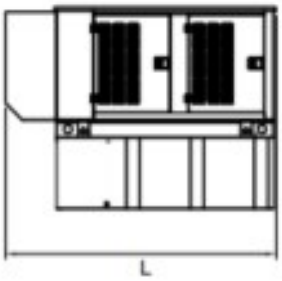
dimensions, weights and sound levels

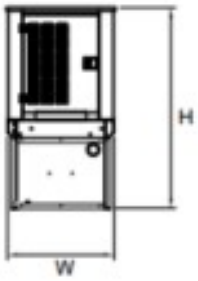




OPEN SET

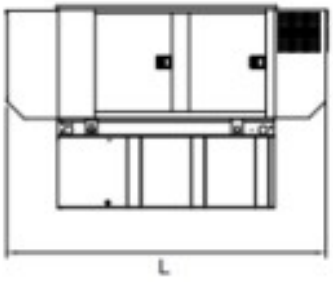
RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	110	40	65	3104	87
12	90	110	40	77	3813	
30	220	110	40	89	4146	
48	350	110	40	101	4488	
70	510	117	47	105	4489	
81	589	128	49	107	4948	
95	693	136	53	107	4867	

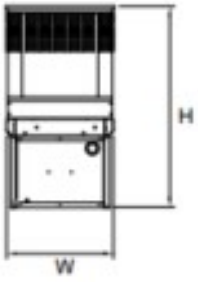




WEATHERPROOF ENCLOSURE

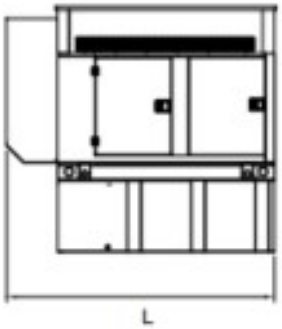
RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	133	40	64	3954	83
12	90	133	40	77	4663	
30	220	133	40	89	4996	
48	350	133	40	101	5338	
70	510	133	47	105	5339	
81	589	133	49	107	5798	
95	693	136	53	107	5717	

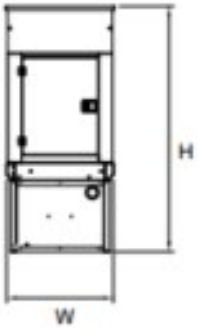




LEVEL 1 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	154	40	64	4354	79
12	90	154	40	77	5063	
30	220	154	40	89	5396	
48	350	154	40	101	5738	
70	510	154	47	105	5739	
81	589	154	49	107	6198	
95	693	154	53	107	6117	





LEVEL 2 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBA*
NO TANK	-	145	40	81	4232	75.5
12	90	145	40	94	4941	
30	220	145	40	106	5274	
48	350	145	40	118	5616	
70	510	145	47	122	5617	
81	589	145	49	124	6076	
95	693	145	53	124	5995	

*All measurements are approximate and for estimation purposes only. Weights are without fuel in tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

Tank Options

○	MDEQ	OPT
○	Florida DERM/DEP	OPT
○	Chicago Fire Code	OPT
○	IFC Certification	CALL
○	ULC	CALL

Other Custom Options Available from your Generac Industrial Power Dealer

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

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Appendix H
Trip Generation Assessment

MEMORANDUM

DATE: December 5, 2024
TO: Cindi Hoover, Dudek
FROM: Charlene So, Urban Crossroads
JOB NO: 15720-02 TG Memo

HESPERIA COMMERCE CENTER I LOT 5 TRIP GENERATION ASSESSMENT

Urban Crossroads, Inc. is pleased to submit the following Trip Generation Assessment for the proposed Hesperia Commerce Center I Lot 5 development (**Project**), which is located at Caliente Road in the City of Hesperia. This letter describes the proposed Project trip generation and determines whether any traffic operations analysis is required based on the City's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) (dated July 2020, referred to as **City Guidelines**).

BACKGROUND & PROPOSED PROJECT

The following trip generation assessment compares the proposed Project plus the uses evaluated in the Hesperia Commerce Center Traffic Impact Analysis, prepared by Urban Crossroads, Inc., dated October 4, 2019 (referred to as 2019 Traffic Study) to determine if the total Project trip generation falls within the overall envelope of analysis evaluated in the Project's 2013 Environmental Impact Report (EIR) as evaluated in the Hesperia Commerce Center Traffic Impact Analysis, prepared by Hall & Foreman, Inc., dated August 9, 2013 (referred to as 2013 Traffic Study).

It is our understanding that the Project is to consist of a 150,000 square foot warehouse building on the east side of Caliente Road (see Exhibit 1). The 2019 Traffic Study evaluated 3,303,800 square feet of high-cube fulfillment center use within three buildings located west of Caliente Road. The proposed Project and the project evaluated in the 2019 Traffic Study will be compared to that evaluated in the 2013 Traffic Study.

The 2013 Traffic Study presented two site plans but evaluated the most conservative (Site Plan A) which included the development of 3,080,490 square feet of high-cube warehouse use within four buildings located west of Caliente Road and 465,302 square feet of business park uses on the east side of Caliente Road. The 2013 and 2019 Site Plans are shown in Exhibit 2.

EXHIBIT 1: PROPOSED PRELIMINARY SITE PLAN

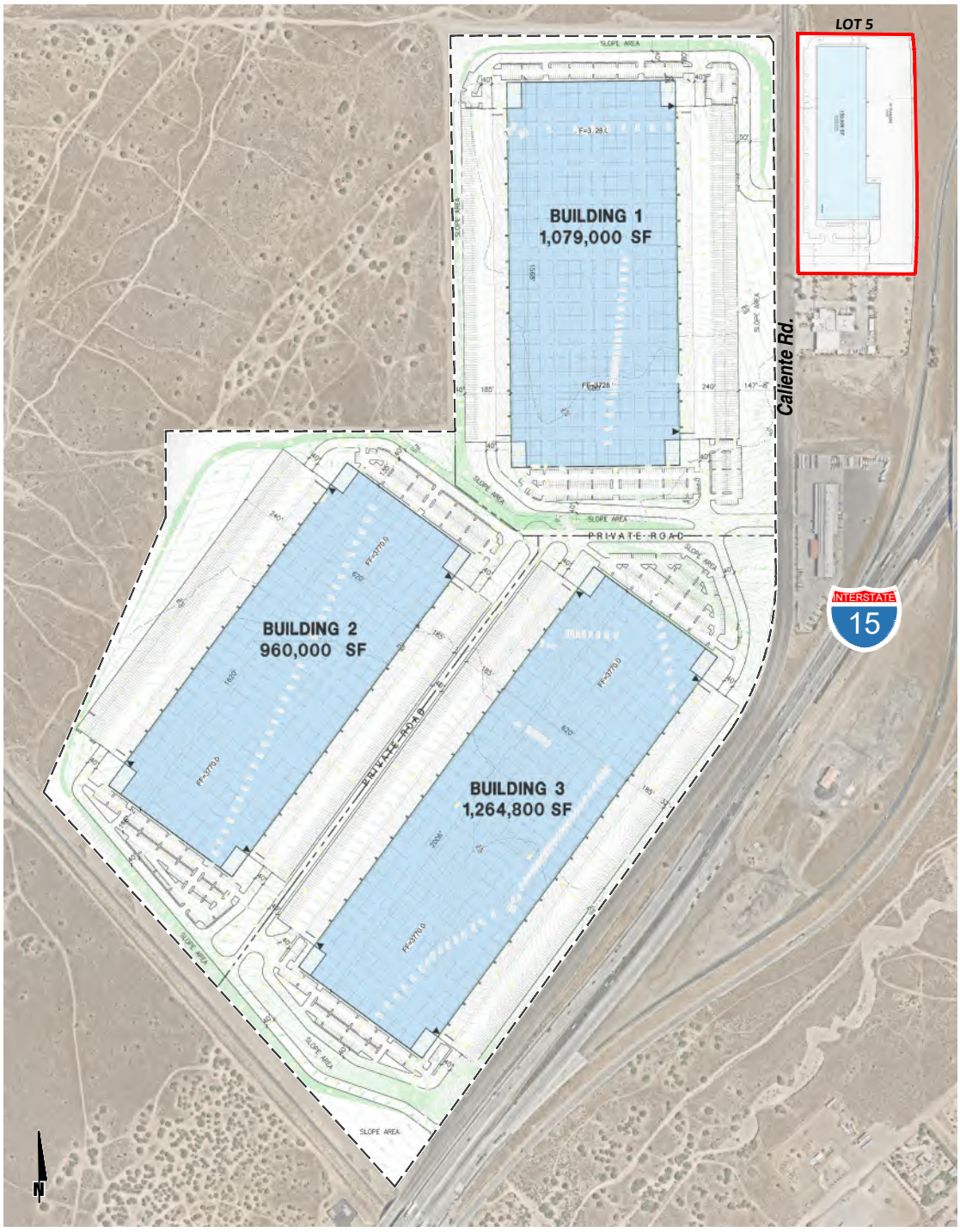
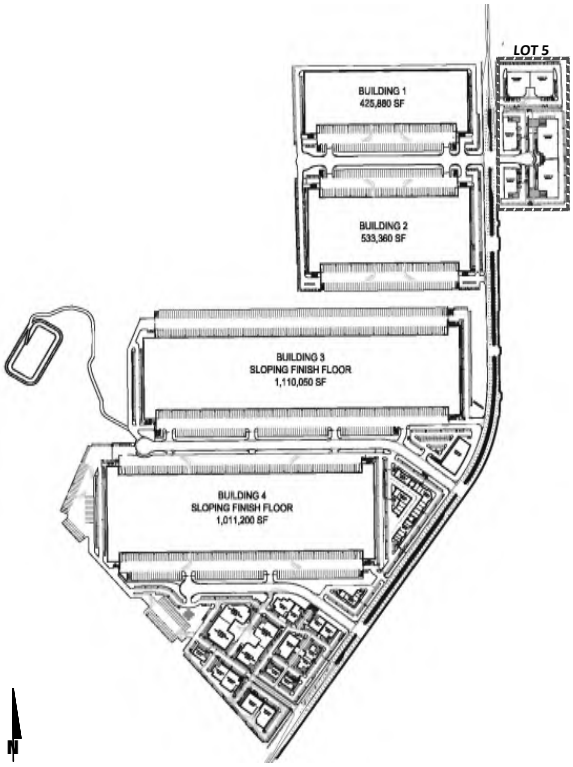
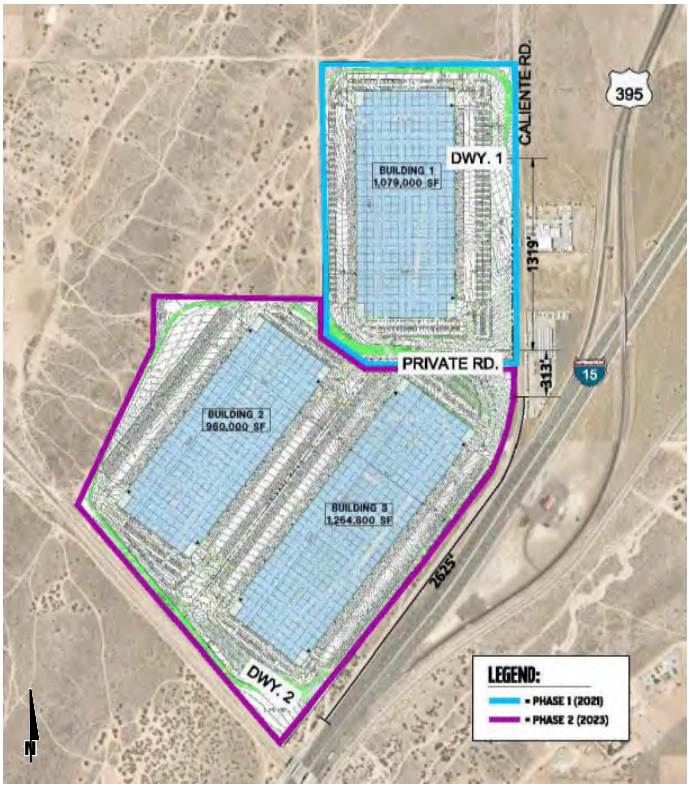


EXHIBIT 2: 2013 & 2019 APPROVED SITE PLAN

2013 APPROVED PROJECT



2019 APPROVED PROJECT



TRIP GENERATION

2013 APPROVED PROJECT

As noted previously, the 2013 Traffic Study evaluated 3,080,490 square feet of high-cube warehouse use and 465,302 square feet of business park use. Table 1 summarizes the trip generation summary for the approved Project as evaluated in the 2013 Traffic Study. The Project evaluated in the 2013 Traffic Study generates a total of 10,964 two-way trips per day with 958 AM peak hour trips and 927 PM peak hour trips as shown in Table 1. The trip generation and previous site plan evaluated in the 2013 Traffic Study are provided in Attachment A.

TABLE 1: 2013 TRAFFIC STUDY TRIP GENERATION SUMMARY

			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[1]	In	Out	Total	In	Out	Total	Daily
Business Park	465.302	TSF							
Total Trips:			554	98	652	152	434	586	5,788
Internal Capture (5%) Reduction			-28	-5	-33	-8	-22	-29	--
Passenger Cars:			421	74	495	116	330	446	4,630
Total Truck Trips:			105	19	124	29	82	111	1,158
Business Park Subtotal Trips[2]			526	93	619	145	412	557	5,788
High-Cube Warehouse (Buildings 1 through	3,080.490	TSF							
Passenger Cars:			155	62	217	74	173	247	3,106
Total Truck Trips:			79	43	122	41	82	123	2,070
High-Cube Warehouse Subtotal Trips[2]			234	105	339	115	255	370	5,176
Project Total									
Passenger Cars:			576	136	712	190	503	693	7,736
Total Truck Trips:			184	62	246	70	164	234	3,228
Project Total Trips[2]			**760**	**198**	**958**	**260**	**667**	**927**	**10,964**

Source: Hesperia Commerce Center Traffic Impact Analysis, prepared by Hall & Foreman, Inc., dated August, 9, 2013.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

2019 APPROVED PROJECT

The 2019 Traffic Study evaluated only the 3,303,800 square feet of high-cube fulfillment center warehouse use and reduced the total number of buildings from four to three on the west side of Caliente Road in comparison to the original Project evaluated in the 2013 Traffic Study. It should be noted that the three buildings evaluated in the 2019 Traffic Study have since been constructed and are currently operational. Table 2 summarizes the trip generation summary for the Project as evaluated in the 2019 Traffic Study (western portion of the overall Project evaluated in the 2013 Traffic Study). The Project evaluated in the 2019 Traffic Study generates a total of 9,004 two-way trips per day with 502 AM peak hour trips and 647 PM peak hour trips as shown in Table 2 (trips in passenger car equivalent or PCE). PCE factors were applied to heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. A PCE factor of 2.0 was utilized for 2-4 axle trucks and a factor of 3.0 for

all 5+-axle trucks. The trip generation and previous site plan evaluated in the 2019 Traffic Study are provided in Attachment B.

Table 2 also provides a comparison to the original 2013 Traffic Study and identifies the surplus of remaining trips from the original approval which included the business park component on the east side of Caliente Road. Note that PCE trips were not evaluated in the 2013 Traffic Study and the trips reflected in Table 2 do not account for PCE trips for the 2013 Traffic Study.

TABLE 2: 2019 TRAFFIC STUDY TRIP GENERATION SUMMARY

			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[1]	In	Out	Total	In	Out	Total	Daily
2019 Traffic Study:									
Phase 1: High-Cube Fulfillment Center	1,079.000	TSF							
Passenger Cars:			86	26	112	44	112	156	1,888
Total Truck Trips (PCE):			40	12	52	16	40	56	1,052
Phase 1 Total Trips (PCE)[2]			**126**	**38**	**164**	**60**	**152**	**212**	**2,940**
Project Buildout: High-Cube Fulfillment Center	3,303.800	TSF							
Passenger Cars:			262	78	340	133	343	476	5,782
Total Truck Trips (PCE):			125	37	162	48	123	171	3,222
2019 Project Buildout Total Trips (PCE)[2]			**387**	**115**	**502**	**181**	**466**	**647**	**9,004**
2013 Traffic Study (see Table 1):									
Passenger Cars:			576	136	712	190	503	693	7,736
Total Truck Trips:			184	62	246	70	164	234	3,228
2013 Project Buildout Total Trips (PCE)[2]			**760**	**198**	**958**	**260**	**667**	**927**	**10,964**
Net Remaining Trips:									
Passenger Cars:			314	58	372	57	160	217	1,954
Total Truck Trips (PCE):			59	25	84	22	41	63	6
Remaining Total Trips (PCE)[2]			**373**	**83**	**456**	**79**	**201**	**280**	**1,960**

Source: Hesperia Commerce Center Traffic Impact Analysis, prepared by Urban Crossroads, Inc., dated October 4, 2019.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

PROPOSED PROJECT

The proposed Project is a 150,000 square foot warehouse building located on the east side of Caliente Road, which is the remaining development of the original Project evaluated in 2013.

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used. In an effort to conduct a conservative analysis, the General Light Industrial (ITE 110) land use category has been used for the proposed 150,000 square foot warehouse which has a higher trip generation rate than a typical Warehouse (ITE 150). Table 3 summarizes the trip generation rates. For purposes of this assessment, the following ITE land use code and vehicle mix has been used for the proposed 150,000 square foot building:

- ITE land use code 110 (General Light Industrial) has been used to derive site specific trip generation estimates for up to 150,000 square feet of the proposed Project. A light industrial facility is a free-standing facility devoted to a single use that has an emphasis on activities other than manufacturing. Typically, there is minimum office space. The vehicle mix has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

TABLE 3: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicle Trip Generation Rates									
General Light Industrial[3]	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars (AM=98.6%, PM=98.5%, Daily=94.9%)			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (AM=0.23%, PM=0.25%, Daily=0.85%)			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks (AM=0.29%, PM=0.31%, Daily=1.05%)			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks (AM=0.88%, PM=0.94%, Daily=3.20%)			0.004	0.002	0.006	0.003	0.003	0.006	0.157
Passenger Car Equivalent (PCE) Trip Generation Rates									
General Light Industrial[3]	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (PCE = 1.5)			0.002	0.001	0.003	0.002	0.001	0.003	0.063
3-Axle Trucks (PCE = 2.0)			0.002	0.002	0.004	0.002	0.002	0.004	0.104
4+-Axle Trucks (PCE = 3.0)			0.012	0.007	0.019	0.009	0.010	0.019	0.470

[1] Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project (Lot 5 only) are summarized in Table 4. The proposed Project is anticipated to generate 790 two-way trips per day with 113 AM peak hour trips and 98 PM peak hour trips (in PCE).

TABLE 4: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Passenger Car Equivalent (PCE):									
General Light Industrial	150.000	TSF							
Passenger Cars:			97	13	110	13	83	96	694
Total Truck Trips (PCE):			2	1	3	1	1	2	96
Proposed Project Total Trips (PCE)[2]			**99**	**14**	**113**	**14**	**84**	**98**	**790**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

TRIP GENERATION COMPARISON

Table 5 shows the trip generation comparison between the approved Project (per the 2013 Traffic Study) and proposed Project (2019 Traffic Study plus 150,000 square foot warehouse on Lot 5) and identifies the resulting net change in trips. As shown, the proposed Project is anticipated to generate 1,170 fewer two-way trips per day with 343 fewer AM peak hour trips and 182 fewer PM peak hour trips as compared to the approved Project (in PCE).

TABLE 5: TRIP GENERATION COMPARISON

			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[1]	In	Out	Total	In	Out	Total	Daily
Passenger Car Equivalent (PCE):									
Approved Project (2013 Traffic Study)	3,545.792	TSF							
Passenger Cars:			576	136	712	190	503	693	7,736
Total Truck Trips (PCE):			184	62	246	70	164	234	3,228
Approved Project Total Trips (PCE)[2]			760	198	958	260	667	927	10,964
Proposed Project (2019 Traffic Study + Lot 5)	3,453.800	TSF							
Passenger Cars:			359	91	450	146	426	572	6,476
Total Truck Trips (PCE):			127	38	165	49	124	173	3,318
Proposed Project Total Trips (PCE)[2]			486	129	615	195	550	745	9,794
Net Change in Trips									
Passenger Cars			-217	-45	-262	-44	-77	-121	-1,260
Trucks			-57	-24	-81	-21	-40	-61	90
Net Change in Project Trips (PCE)[2]			**-274**	**-69**	**-343**	**-65**	**-117**	**-182**	**-1,170**

Note: Negative number indicates net reduction in trips.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

2013 MITIGIATON MESAURES

The Mitigation Measure Monitoring & Reporting Program (MMRP) from the 2013 Environmental Impact Report (EIR) for the Hesperia Commerce Center development is included in Attachment C. The listed Transportation/Traffic mitigation measures are applicable to the 2013 project evaluated in the EIR. As noted on each mitigation measure, all mitigation measures have been completed with the exception of Mitigation Measure TR-4 which includes signalization and lane improvements to the intersection of Joshua Street and Caliente Road which have not yet been completed. Some listed improvements identified in TR-6 and TR-7 have not yet been completed, however, were the responsibility of others to implement. Lastly, some improvements listed in TR-8 through TR-12 have not yet been completed, however, improvements at these intersections were identified as future improvements to be funded by the City's Development Impact Fee (DIF) program. As such, the proposed Project (Lot 5) should pay its fair share towards these future improvements through the payment of applicable DIF fees.

FINDINGS

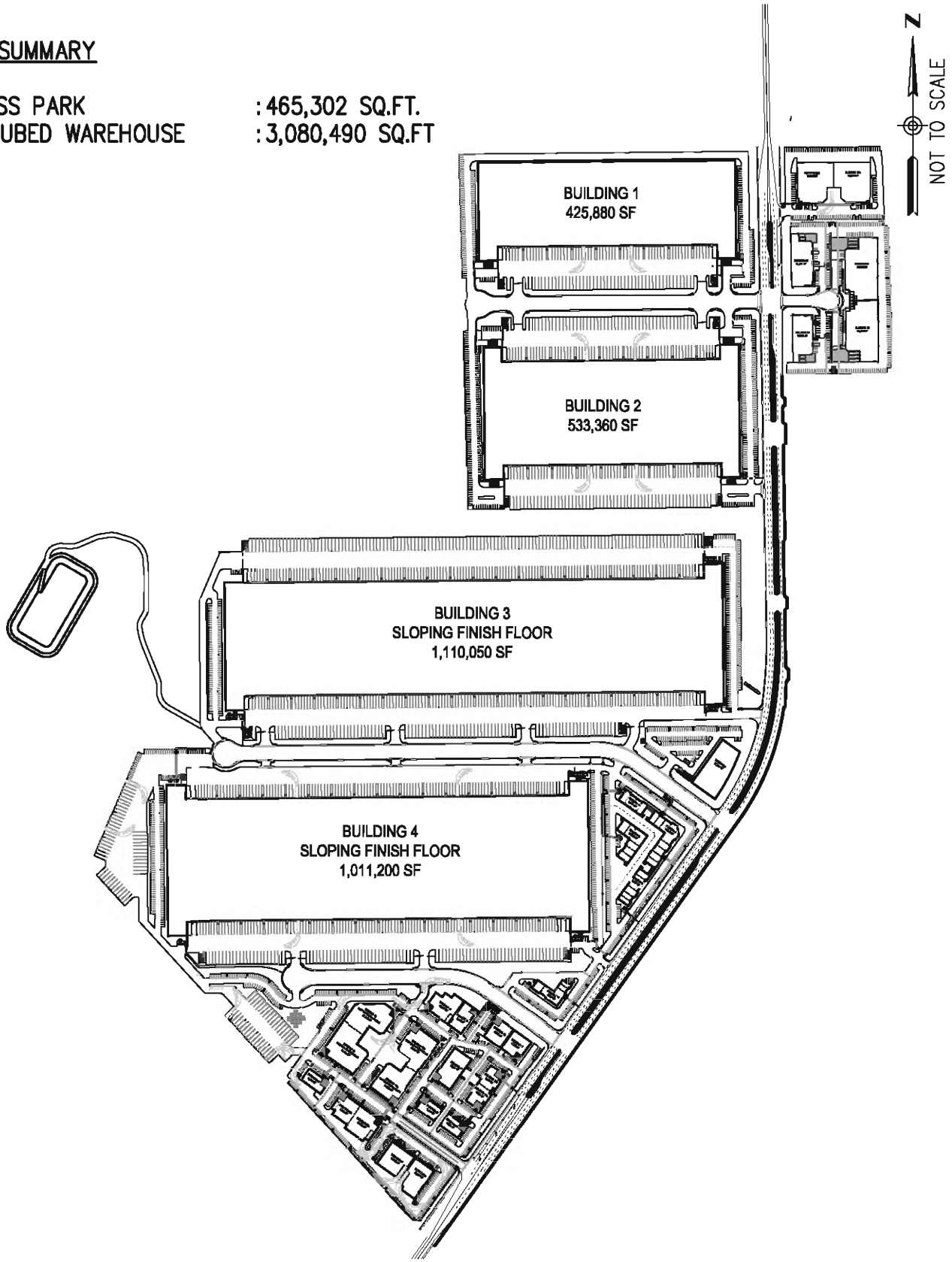
The City's Guidelines identify a project could potentially require further analysis if a project generates more than 50 net new peak hour trips in either peak hour. Based on a comparison of the currently approved Project as evaluated in the 2013 Traffic Study, the proposed Project (2019 Traffic Study plus Lot 5) is anticipated to result in a net reduction in trips from the original approved Project (2013 Traffic Study). As such, no further traffic operations analysis has been recommended based on the findings of this trip generation assessment.

If you have any questions or comments, I can be reached at cso@urbanxroads.com.

ATTACHMENT A: PROJECT TRIP GENERATION FROM 2013 TRAFFIC STUDY

TABLE SUMMARY

BUSINESS PARK	: 465,302 SQ.FT.
HIGH-CUBED WAREHOUSE	: 3,080,490 SQ.FT



Hall & Foreman, Inc.
Engineering · Surveying · Planning
14297 Cajon St., Suite 101 Victorville, CA., 92392-2335
Phn. 760-524-9100 Fax. 760-524-9101

SITE PLAN A

CALIENTE ROAD INDUSTRIAL BUILDINGS TRAFFIC STUDY

FIGURE 1-2

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3. PROJECT TRAFFIC CONDITIONS

3.1 Project Trip Generation

The project was analyzed to determine the amount of traffic that would be generated from the proposed development. To identify potential traffic impacts from the project, trip generation factors were applied to the type of use to generate project traffic estimates. The trip generation rates were obtained from the Institute of Transportation Engineers' trip generation report as presented in Table 3 and compared to similar developments consisting of nearly the same type of development and acreage.

TABLE 3-1
Project Trip Generation
Traffic Impact Analysis

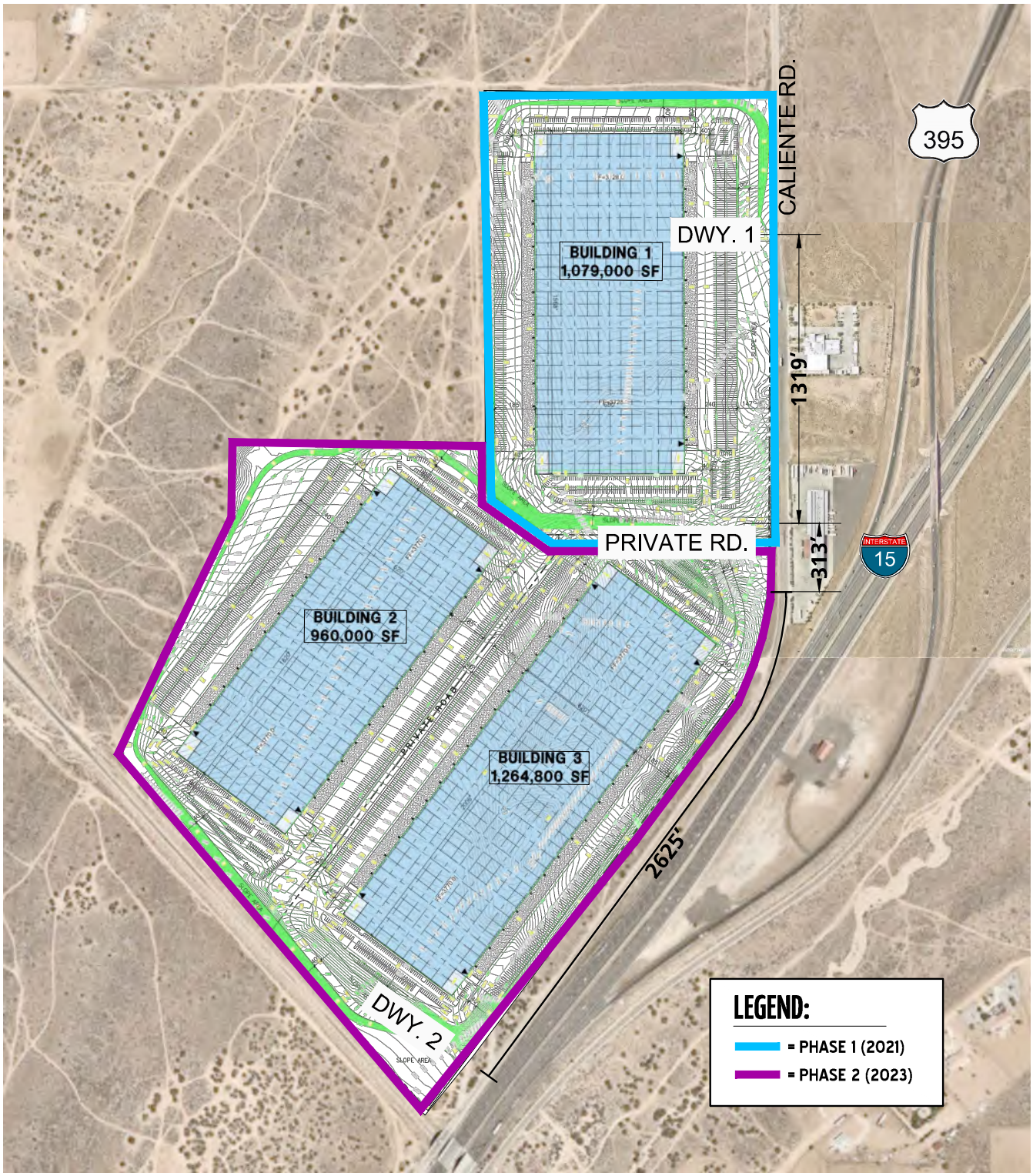
			A.M. Peak Hour			P.M. Peak Hour		
	Use	Daily	In	Out	Total	In	Out	Total
1	**Business Park**							
	(ITE 770) Per 1000 SF	12.44	1.19	0.21	1.40	0.33	0.93	1.26
	465,302 SF	5,788	554	98	651	152	434	586
	5% Internal Capture	-	-28	-5	-33	-8	-22	-29
A	Net Trips	5,788	526	93	619	145	412	557
B	**Autos** (80%)	-	421	74	495	116	330	446
C	**Trucks** (20%)	-	105	19	124	29	82	111
2	**High-Cube Warehouse, Bldg 3&4**							
	(ITE 152) Per 1000 SF	1.68	0.07	0.03	0.11	0.03	0.08	0.12
E	3,080,490 SF (Total Trips)	5,175	234	105	339	115	255	370
F	**Autos** (56% AM, 60% PM)	-	86.8	54	155	61	124	185
G	**Trucks** (44% AM, 40% PM)	-	79	43	122	41	82	123
	Total Trips (A+E)	**10,964**	**760**	**198**	**958**	**259**	**667**	**927**
	Auto Trips (B+F)	**-**	**508**	**128**	**650**	**177**	**454**	**631**
	Truck Trips (C+G)	**-**	**184**	**62**	**246**	**70**	**164**	**234**
	Truck Percentage	**-**	**-**	**-**	**28%**	**-**	**-**	**27%**

Source: **Institute of Transportation Engineers', Trip Generation Manual, 9th Edition**

As presented, the project consists of a Business Park and High-Cube Warehouse development on a total of approximately 232 acres. It is estimated that the project will generate 10,964 daily trips with 958 trips during the AM Peak Hour, and 927 trips during the PM Peak Hour. Truck trips are estimated based upon the total trips at 246 for the AM and 234 for the PM Peak Hours.

ATTACHMENT B: PROJECT TRIP GENERATION FROM 2019 TRAFFIC STUDY

EXHIBIT 1-1: PRELIMINARY SITE PLAN



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URBAN CROSSROADS

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment, onto the study area roadway network. The proposed Project consists of a total of 3,303,800 square feet of high-cube fulfillment center warehouse within three buildings. The Project is anticipated to be developed within two phases. Phase 1 consists of the development of Building 1 (1,079,000 square feet) and is estimated to be completed and fully occupied by the year 2021. Phase 2 (Project Buildout) consists of the development of Buildings 2 and 3 (total of 3,303,800 square feet) and is estimated to be completed and fully occupied by the year 2023.

At the time this TIA was prepared, Building 1 was proposed to consist of 1,079,000 square feet of high-cube fulfillment center warehouse space, Building 2 was proposed to consist of 960,000 square feet of high-cube fulfillment center warehouse space, and Building 3 was proposed to consist of 1,264,800 square feet of high-cube fulfillment center warehouse space. However, the current site plan proposes 1,055,360 square feet of high-cube fulfillment center warehouse space within Building 1, 1,004,400 square feet of high-cube fulfillment center warehouse space within Building 2, and 1,243,720 square feet of high-cube fulfillment center warehouse space within Building 3. The higher square footages from the original site plan have been evaluated for the purposes of this TIA.

Vehicular and truck traffic access will be provided via the following driveways (see Exhibit 1-1):

- Caliente Road via Driveway 1 – full access for both passenger cars and trucks
- Caliente Road via Private Road – full access for both passenger cars and trucks
- Caliente Road via Driveway 2 – full access for both passenger cars and trucks

Regional access to the Project site is available from the I-15 Freeway via Ranchero Road and Joshua Street interchanges for near-term conditions and via Ranchero Road and Muscatel Street interchanges for Horizon Year conditions.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed project, the trip-generation rates used for this analysis are based upon the Western Riverside Council of Government's High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019). (2) Trip generation rates for the Project are shown in Table 4-1. The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE, for both phase 1 and Project buildout, are shown in Table 4-2.

Table 4-1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
High-Cube Fulfillment Center Warehouse[3]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars (AM-84.3%; PM-87.2%; Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.3%; PM-6.4%; Daily-7.6%)			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+ Axle Trucks (AM-9.4%; PM-6.4%; Daily-10.2%)			0.008	0.003	0.011	0.003	0.007	0.010	0.217
Passenger Car Equivalent (PCE) Trip Generation Rates									
High-Cube Fulfillment Center Warehouse[3]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars (AM-84.3%; PM-87.2%; Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.3%; PM-6.4%; Daily-7.6%) (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+ Axle Trucks (AM-9.4%; PM-6.4%; Daily-10.2%) (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651

[1] Trip Generation Source: High Cube Warehouse Trip Generation Study (WSP, January 29, 2019)

[2] TSF = thousand square feet

[3] Inbound and outbound split Source: ITE's High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016).

Table 4-2

Project Trip Generation Summary

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Summary (Actual Vehicles)									
PHASE 1									
Building 1	1,079.000	TSF							
Passenger Cars:			86	26	112	44	112	156	1,888
Truck Trips:									
2-4 axle:			7	2	9	3	9	12	176
5+ axle:			9	3	12	3	8	11	234
- Truck Trips			16	5	21	6	17	23	410
PHASE 1 TOTAL TRIPS (Actual Vehicles) [2]			**102**	**31**	**133**	**50**	**129**	**179**	**2,298**
PROJECT BUILDOUT									
Buildings 1, 2 and 3	3,303.800	TSF							
Passenger Cars:			262	78	340	133	343	476	5,782
Truck Trips:									
2-4 axle:			20	6	26	10	26	36	536
5+ axle:			28	8	36	9	24	33	718
- Truck Trips			48	14	62	19	50	69	1,254
PROJECT BUILDOUT TOTAL TRIPS (Actual Vehicles) [2]			**310**	**92**	**402**	**152**	**393**	**545**	**7,036**
Project Trip Generation Summary (PCE)									
PHASE 1									
Building 1	1,079.000	TSF							
Passenger Cars:			86	26	112	44	112	156	1,888
Truck Trips:									
2-4 axle:			13	4	17	7	17	24	350
5+ axle:			27	8	35	9	23	32	702
- Truck Trips			40	12	52	16	40	56	1,052
PHASE 1 TOTAL TRIPS (PCE) [2]			**126**	**38**	**164**	**60**	**152**	**212**	**2,940**
PROJECT BUILDOUT									
Buildings 1, 2 and 3	3,303.800	TSF							
Passenger Cars:			262	78	340	133	343	476	5,782
Truck Trips:									
2-4 axle:			41	12	53	20	52	72	1,070
5+ axle:			84	25	109	28	71	99	2,152
- Truck Trips			125	37	162	48	123	171	3,222
PROJECT BUILDOUT TOTAL TRIPS (PCE) [2]			**387**	**115**	**502**	**181**	**466**	**647**	**9,004**

[1] TSF = thousand square feet

[2] TOTAL TRIPS = Passenger Cars + Truck Trips.

ATTACHMENT C: 2013 EIR MITIGATION MEASURE MONITORING & REPORTING PROGRAM (MMRP)

HESPERIA COMMERCE CENTER PROJECT							
Mitigation Measure	**Timing for Implementation**	**Enforcement Agency**	**Monitoring Agency**	**Compliance Action**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
Transportation/Traffic							
TR-1: Caliente Road and Project Driveway #1; Provide a stop sign for the project driveway exit and widen Caliente Road along the project frontage to provide turning lanes. The northbound direction is to be widened to include a left, an additional through lane, and a shared right-through lane. The northbound lane configuration would include a left, two through lanes, and a shared through-right lane. The southbound direction is to be widened to include a left and a shared through-right lane. The southbound configuration would include a left, a through, and a shared through-right lane. The eastbound direction is to provide a shared left-through lane and a right turning lane. The westbound direction is to provide a left turning lane and a shared through-right lane.	Prior to final occupancy permit.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of stop sign and roadway improvements as required.			Completed - currently Caliente Road is improved with 2 lanes in each direction separated by a painted median and tapers down north of Driveway #1 to the existing undivided 2-lane roadway north of Cedar Street.
TR-2: Caliente Road and Project Driveway #2; Provide a stop sign for the project driveway exit and widen Caliente Road along the project frontage to provide turning lanes. The northbound direction is to be widened to include a left and two additional through lane. The northbound lane configuration would include a left and three through lanes. The southbound direction is to be widened to include a shared right-through lane. The southbound configuration would include two through lanes, and a shared right-through lane. The eastbound direction is to provide a left turning lane and a right turning lane.	Prior to final occupancy permit.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of stop sign and roadway improvements as required.			Completed - currently Caliente Road is improved with 2 lanes in each direction separated by a painted median. Based on the site plan approved as part of the 2019 study, this location is signalized.

HESPERIA COMMERCE CENTER PROJECT							
Mitigation Measure	**Timing for Implementation**	**Enforcement Agency**	**Monitoring Agency**	**Compliance Action**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
TR-3: Caliente Road and Project Driveway #3; Install a Traffic Signal at the intersection and widen Caliente Road along to provide turning lanes. The northbound direction is to be widened to include a left and two additional through lane. The northbound lane configuration would include a left and three through lanes. The southbound direction is to be widened to include an additional through lane and a shared right-through lane. The southbound configuration would include two through lanes, and a shared right-through lane. The eastbound direction is to provide a left turning lane and a right turning lane.	Prior to final occupancy permit.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of traffic signal and roadway improvements as required.	Completed - currently Caliente Road is improved with 2 lanes in each direction separated by a painted median and tapers down south of Driveway #3 to the existing undivided 2-lane roadway.		
TR-4: Joshua Street and Caliente Road; Install a Traffic Signal at the intersection and widen the northbound to accommodate a right turning lane, the southbound to accommodate a left turning lane, and westbound to accommodate two additional left turning lanes. The northbound direction will be widened to provide a through and a right turning lane. The southbound direction will be widened to provide a through land and a left turning lane.	Prior to final occupancy permit.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of traffic signal and roadway improvements as required.	Not Completed - the intersection is currently stop controlled (on the WB approach only) and is striped for a single NB lane, shared SB left-through lane, SB right turn lane, and single WB left-right turn lane.		
TR-5: Highway 395 and Joshua Street; Joshua Street is to be widened to the west of Highway 395. Joshua Street will be widened to provide two receiving lanes to accommodate the eastbound through traffic. The westbound approach to the intersection of Highway 395 and Joshua Street is anticipated to be constructed by the Love's project as presented in mitigation measures TR-6 and TR-7 below.	Prior to final occupancy permit.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of traffic signal and roadway improvements as required.	Completed - traffic signal and roadway improvements implemented by the Pilot development are currently in place (see additional text).		

HESPERIA COMMERCE CENTER PROJECT							
Mitigation Measure	**Timing for Implementation**	**Enforcement Agency**	**Monitoring Agency**	**Compliance Action**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
TR-6: Highway 395 and Joshua Street; All approaches are to be widened to accommodate additional lanes. The northbound direction is to be widened to include an additional through lane. The northbound lane configuration would include a left, three through lanes, and a right. The southbound direction to be widened is to include an additional left turning lane. The southbound lane configuration would include two left turn lanes, two through lanes, and a right. The eastbound lane configuration would include a left and a shared through-right lane. The westbound direction is to be widened to include an additional left and an additional through lane. The westbound lane configuration would include two left turn lanes, two through lanes, and a right turn lane. The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project and are to be constructed to the Ultimate design.	Prior to the Year 2016.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements as required by the proponents of the Love's Travel Center project.			To have been completed by others - traffic signal is in place. NB approach includes 1 left, 2 through lanes, and 1 right turn lane; however, the NB approach along the Pilot property has been improved with 3 NB through lanes. The SB approach includes one left, 2 through lanes, and 1 right turn lane. The EB approach has 1 left and a shared through-right turn lane. WB approach includes 1 left, 1 through, and 1 right turn lane.
TR-7: Joshua Street and Outpost Road; install a traffic signal at the intersection to be coordinated with the Highway 395 and Joshua Street intersection, and widen the north, east, and westbound directions to accommodate additional lanes. The northbound direction is to be widened to accommodate a left and a right. The northbound lane configuration would include a left turning lane, a shared left-through lane, and a right turn lane. The southbound lane configuration would include a shared left-through lane and a right turn lane. The eastbound direction is to be widened to accommodate a left, an additional through lane, and a right. The eastbound lane configuration	Prior to the Year 2016 or final occupancy permit of the Love's Travel Center project.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements as required by the proponents of the Love's Travel Center project.			To have been completed by others - no traffic signal has been installed. No south leg (NB approach). SB has 3 egress lanes to accommodate a left, through, and right turn lane in the future. The EB approach has one wide single lane to accommodate a left and through. The WB approach includes 1 shared through-right turn lane.

HESPERIA COMMERCE CENTER PROJECT							
Mitigation Measure	**Timing for Implementation**	**Enforcement Agency**	**Monitoring Agency**	**Compliance Action**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
would include a left turning lane, two through lanes, and a right turning lane. The westbound direction is to be widened to accommodate a left, an additional through lane, and a right. The westbound lane configuration would include two left turn lanes, two through lanes, and a right turning lane. The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project.					See previous page.		
TR-8: Joshua Street and Mariposa Road; Install a traffic signal at the intersection and improve the eastbound direction left turning lane to be restriped to a shared left-through lane. The north, south and westbound direction includes a shared left-through-right turning lane. The eastbound direction right turning lane is restriped to a shared through-right lane. The eastbound direction is to be constructed with development. The eastbound direction will include a left turning lane and a shared through-right turning lane. The southbound right, northbound left, and westbound through are to be constructed with development. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).	Prior to the Year 2035.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements or payment of an amount determined by the City for fair share in lieu fees.	Project to Pay DIF fees as it was identified as a future City DIF project. Current intersection is controlled with a stop sign on the EB approach with a single lane in each direction.		
TR-9: Oak Hill Road and I-15 Southbound Ramps; Install traffic signal at the intersection and improve the eastbound direction to be widened to accommodate a free right. The southbound direction includes a shared left-through turning lane and a right. The eastbound direction is to be widened to accommodate a free right. The eastbound direction is to include a through lane and a free right turn lane. The westbound direction includes a shared left-	Prior to the Year 2035.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements or payment of an amount determined by the City for fair share in lieu	Project to Pay DIF fees as it was identified as a future City DIF project. Current intersection is controlled with a stop sign on the SB approach with a single lane in each direction on Oak Hill Road and a shared left-through lane and right turn lane on the SB approach.		

HESPERIA COMMERCE CENTER PROJECT							
Mitigation Measure	Timing for Implementation	Enforcement Agency	Monitoring Agency	Compliance Action	Verification of Compliance		
					Initials	Date	Remarks
through turning lane. This future improvement will be funded by a combination of City of Hesperia Developer Impact Fee (DIF) and State Funds.				fees.			See previous page.
TR-10: Main Street and I-15 Freeway Northbound Ramps; Widen the northbound direction to accommodate an additional right. The northbound direction is to include a left turning lane, a shared through-right turning lane, and two right turn lanes. The eastbound direction includes three through lanes. The westbound includes three through lanes and a right turning lane. This future improvement will be funded by a combination of state and local funds	Prior to the Year 2035.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements or payment of an amount determined by the City for fair share in lieu fees.			Project to Pay DIF and regional fees as it was identified as being funded by State and local funds. There are currently 3 EB through lanes, 3 WB through lanes, and 1 WB right turn lane. NB off-ramp currently has 1 left, shared through-right turn lane, and 1 right turn lane.
TR-11: Main Street and Mesa Linda Road; signalized the intersection and the east and westbound directions are to be widened. The northbound direction shared left-right turning lane is to be restriped to a shared left-through-right turning lane. The eastbound direction is to be widened to accommodate a left turn lane. The eastbound direct includes a left, two through lanes, and a shared through-right. The westbound direction a through lane is to be restriped to a shared through-right. The westbound direction includes left, a through, and a shared through-right. The southbound direction is to be constructed with development of the property north of Main Street. The southbound direction will include a shared left-through-right turning lane. The eastbound left and westbound right are to be constructed with development. This future improvement will be funded by City of Hesperia Developer Impact	Prior to the Year 2035.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements or payment of an amount determined by the City for fair share in lieu fees.			Project to Pay DIF fees as it was identified as a future City DIF project. Current intersection is signalized. NB has 1 shared left-through lane and 1 right turn lane. Both EB and WB approaches have 1 left, and 2 through lanes, and 1 shared through-right turn lane. SB approach has 1 shared left-through lane and 1 right turn lane.

HESPERIA COMMERCE CENTER PROJECT							
Mitigation Measure	**Timing for Implementation**	**Enforcement Agency**	**Monitoring Agency**	**Compliance Action**	**Verification of Compliance**		
					Initials	**Date**	**Remarks**
Fee (DIF).							
TR-12: Poplar Road and Three Flags Road; Install traffic signal at the intersection and widen all directions. The northbound direction is to be widened to accommodate a left. The northbound lane configuration would include a left turn lane and a shared through-right turn lane. The southbound lane configuration would include a left turn lane and a shared through-right turn lane. The eastbound direction is to be widened to include a through lane and a left turning lane. The eastbound lane configuration would include a left turning lane, a through lane, and a shared through-right lane. The westbound direction is to be widened to include a through lane and a right turning lane. The westbound lane configuration would include a left turning lane, a through lane, and a right turning lane. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).	Prior to the Year 2035.	City Building and Engineering Divisions.	City Building and Engineering Divisions.	Installation of regional traffic signal and roadway improvements or payment of an amount determined by the City for fair share in lieu fees.	Project to Pay DIF fees as it was identified as a future City DIF project. Current intersection is stop controlled for the NB approach. There is currently only 1 lane in each approach, however, the WB direction accommodates 2 WB through lanes west of Three Flags Road.		

Appendix I
Focused Traffic Assessment

DATE: October 8, 2025
TO: Cindi Hoover, Dudek
FROM: Charlene So, Urban Crossroads, Inc.
JOB NO: 15720-06 TA Memo

SUBJECT: HESPERIA COMMERCE CENTER I LOT 5 FOCUSED TRAFFIC ASSESSMENT

Urban Crossroads, Inc. has prepared the following Focused Traffic Assessment for the Hesperia Commerce Center I Lot 5 (Project), which is located in the City of Hesperia.

PROJECT BACKGROUND

It is our understanding that the Project Applicant is seeking to verify potential changes to the Mitigation Measures (MM) TR-4 through 12 per the Hall & Foreman, Inc. Traffic Impact Analysis dated August 9, 2013. Specifically, the focused traffic operations analysis would be utilized to determine potential changes to the listed MM below.

- MM TR-4: **Joshua Street & Caliente Road** (#1) – Install a traffic signal at the intersection and widen the northbound to accommodate a right turning lane, the southbound to accommodate a left turning lane, and westbound to accommodate two additional left turning lanes. The northbound direction will be widened to provide a through and right turning lane. The southbound direction will be widened to provide a through lane and a left turning lane.
- MM TR-5: **Highway 395 & Joshua Street** (#2) – Joshua Street is to be widened to the west of Highway 395. Joshua Street will be widened to provide two receiving lanes to accommodate the eastbound through traffic. The westbound approach to the intersection of Highway 395 and Joshua Street is anticipated to be constructed by Love's Project as presented in mitigation measures TR-6 and TR-7 below.
- MM TR-6: **Highway 395 & Joshua Street** (#2) – All approaches are to be widened to accommodate additional lanes. The northbound direction is to be widened to include an additional through lane. The northbound lane configuration would include a left, three through lanes, and a right. The southbound direction to be widened is to include an additional left turning lane. The southbound lane configuration would include two left turn lanes, two through lanes, and a right. The eastbound lane configuration would include a left and a shared through-right lane. The westbound direction is to be widened to include an additional left and an additional through lane. The westbound lane configuration would include two left turn lanes, two through lanes, and a right turn lane. The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project and are to be constructed to the Ultimate design.
- MM TR-7: **Joshua Street & Outpost Road** (#3) – Install a traffic signal at the intersection to be coordinated with the Highway 395 and Joshua Street intersection, and widen the north, east, and westbound directions to accommodate additional lanes. The northbound direction is to be

widened to accommodate a left and a right. The northbound lane configuration would include a left turning lane, a shared left-through lane, and a right turn lane. The southbound lane configuration would include a shared left-through lane and a right turn lane. The eastbound direction is to be widened to accommodate a left, an additional through lane, and a right. The eastbound lane configuration would include a left turning lane, two through lanes, and a right turning lane. The westbound direction is to be widened to accommodate a left, an additional through lane, and a right. The westbound lane configuration would include two left turn lanes, two through lanes, and a right turning lane. The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project.

- MM TR-8: **Joshua Street & Mariposa Road** (#4) – Install a traffic signal at the intersection and improve the eastbound direction left turning lane to be restriped to a shared left-through lane. The north, south and westbound direction includes a shared left-through-right turning lane. The eastbound direction right turning lane is restriped to a shared through-right lane. The eastbound direction is to be constructed with development. The eastbound direction will include a left turning lane and a shared through-right turning lane. The southbound right, northbound left, and westbound through are to be constructed with development. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).
- MM TR-9: **Oak Hill Road & 1-15 Southbound Ramps** (#5) – Install traffic signal at the intersection and improve the eastbound direction to be widened to accommodate a free right. The southbound direction includes a shared left-through turning lane and a right. The eastbound direction is to be widened to accommodate a free right. The eastbound direction is to include a through lane and a free right turn lane. The westbound direction includes a shared left-through turning lane. This future improvement will be funded by a combination of City of Hesperia Developer Impact Fee (DIF) and State Funds.
- MM TR-10: **Main Street & I-15 Northbound Ramps** (#6) – Widen the northbound direction to accommodate an additional right. The northbound direction is to include a left turning lane, a shared through-right turning lane, and two right turn lanes. The eastbound direction includes three through lanes. The westbound includes three through lanes and a right turning lane. This future improvement will be funded by a combination of state and local funds.
- MM TR-11: **Main Street & Mesa Linda Road** (#7) – Signalized the intersection and the east and westbound directions are to be widened. The northbound direction shared left-right turning lane is to be restriped to a shared left-through-right turning lane. The eastbound direction is to be widened to accommodate a left turn lane. The eastbound direct includes a left, two through lanes, and a shared through-right. The westbound direction a through lane is to be restriped to a shared through-right. The westbound direction includes left, a through, and a shared through-right. The southbound direction is to be constructed with development of the property north of Main Street. The southbound direction will include a shared left-through-right turning lane. The eastbound left and westbound right are to be constructed with development. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).
- MM TR-12: **Poplar Road & Three Flags Road** (#8) – Install traffic signal at the intersection and widen all directions. The northbound direction is to be widened to accommodate a left. The northbound lane configuration would include a left turn lane and a shared through - right turn lane. The southbound lane configuration would include a left turn lane and a shared through-right turn lane. The eastbound direction is to be widened to include a through lane and a left turning lane. The eastbound lane configuration would include a left turning lane, a through lane, and a shared through-right lane. The westbound direction is to be widened to include a through lane and a right turning lane. The westbound lane configuration would include a left turning lane,

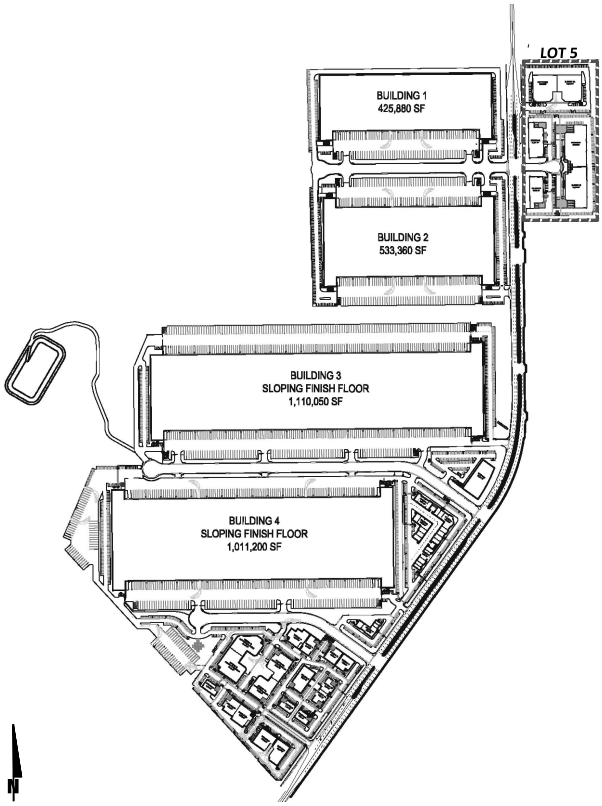
a through lane, and a right turning lane. This future improvement will be funded by City of Hesperia Developer Impact Fee (DIF).

It is our understanding that the Project is to consist of a 150,000 square foot warehouse building on the east side of Caliente Road (see Exhibit 1). The Project's 2013 Environmental Impact Report (EIR) as evaluated in the Hesperia Commerce Center Traffic Impact Analysis, prepared by Hall & Foreman, Inc., dated August 9, 2013 (referred to as 2013 Traffic Study) presented two site plans but evaluated the most conservative (Site Plan A) which included the development of 3,080,490 square feet of high-cube warehouse use within four buildings located west of Caliente Road and 465,302 square feet of business park uses on the east side of Caliente Road. The Hesperia Commerce Center Traffic Impact Analysis, prepared by Urban Crossroads, Inc., dated October 4, 2019 (referred to as 2019 Traffic Study) evaluated 3,303,800 square feet of high-cube fulfillment center use within three buildings located west of Caliente Road (no development east of Caliente Road). The 2013 and 2019 Site Plans are shown in Exhibit 2. The proposed Project and the project evaluated in the 2019 Traffic Study will be compared to that evaluated in the 2013 Traffic Study.

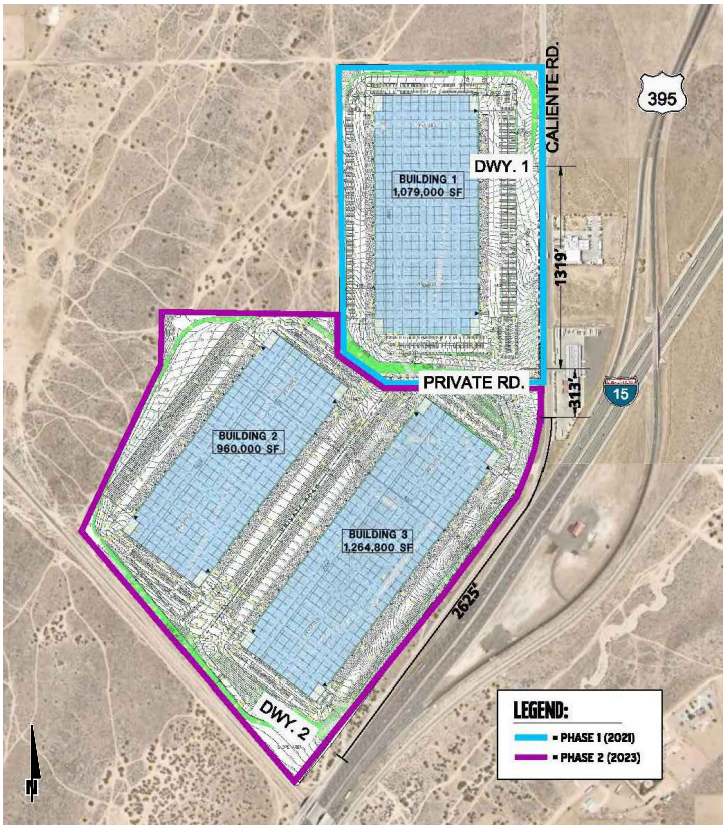
EXHIBIT 1: PROPOSED SITE PLAN

EXHIBIT 2: 2013 & 2019 APPROVED SITE PLAN

2013 APPROVED PROJECT



2019 APPROVED PROJECT



ANALYSIS LOCATIONS

STUDY INTERSECTION

The study area consists of the key locations where MM were previously identified (as listed previously). For the purposes of this assessment, the study area evaluated is graphically depicted in Exhibit 3. The study area intersection will be evaluated using the Highway Capacity Manual (HCM) 7th Edition analysis methodology (Synchro 12 Software).

TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

2013 APPROVED PROJECT

As noted previously, the 2013 Traffic Study evaluated 3,080,490 square feet of high-cube warehouse use and 465,302 square feet of business park use. Table 1 summarizes the trip generation summary for the approved Project as evaluated in the 2013 Traffic Study. The Project evaluated in the 2013 Traffic Study generates a total of 10,964 two-way trips per day with 958 AM peak hour trips and 927 PM peak hour trips as shown in Table 1. The trip generation and previous site plan evaluated in the 2013 Traffic Study are provided in Appendix 1.

TABLE 1: 2013 TRAFFIC STUDY TRIP GENERATION SUMMARY

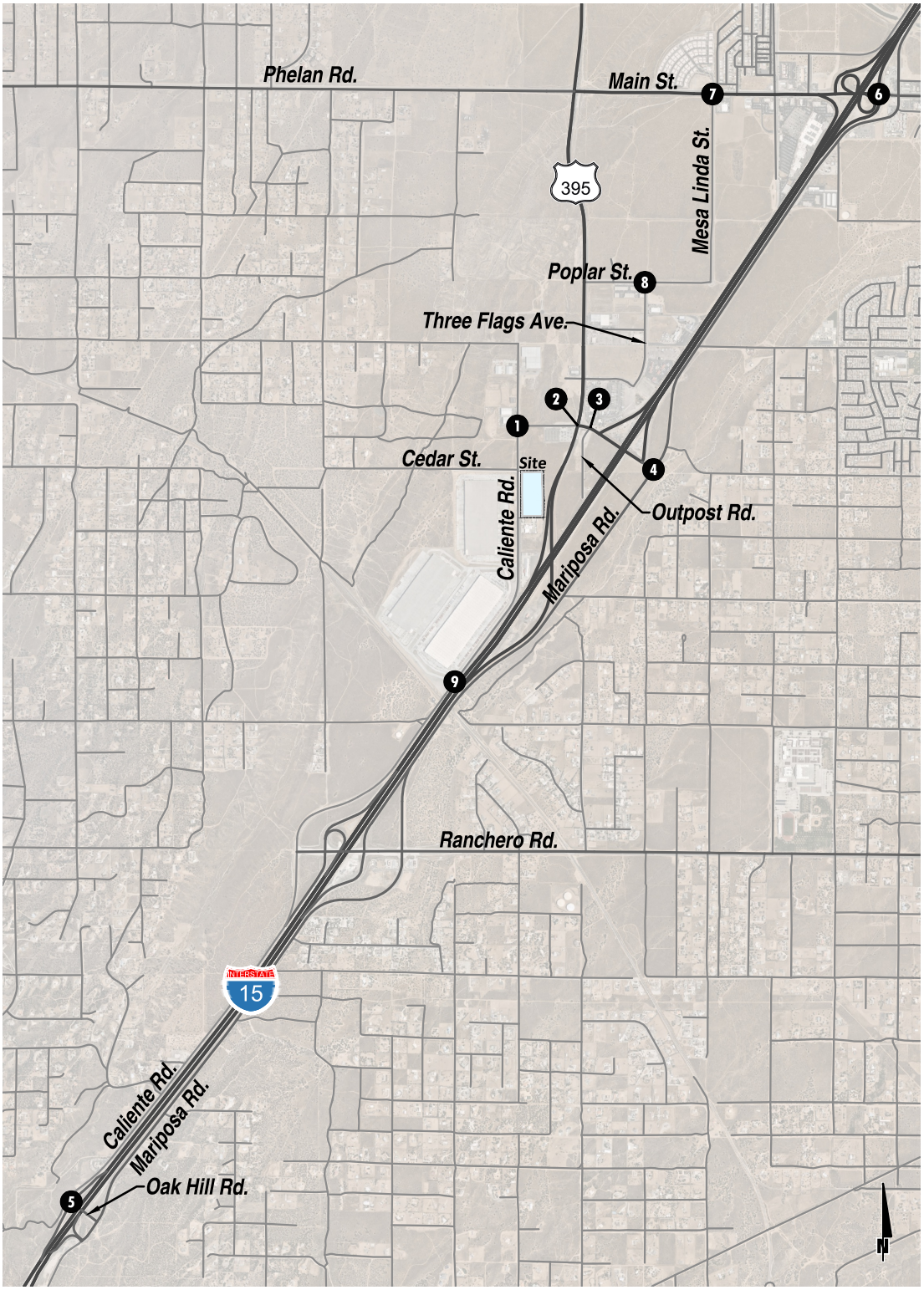
2013 Trip Generation	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Business Park	465.302	TSF							
Total Trips:			554	98	652	152	434	586	5,788
Internal Capture (5%) Reduction			-28	-5	-33	-8	-22	-29	--
Passenger Cars:			421	74	495	116	330	446	4,630
Total Truck Trips:			105	19	124	29	82	111	1,158
Business Park Subtotal Trips[2]			526	93	619	145	412	557	5,788
High-Cube Warehouse (Bldg. 1-4)	3,080.490	TSF							
Passenger Cars:			155	62	217	74	173	247	3,106
Total Truck Trips:			79	43	122	41	82	123	2,070
High-Cube Warehouse Subtotal Trips[2]			234	105	339	115	255	370	5,176
Project Total									
Passenger Cars:			576	136	712	190	503	693	7,736
Total Truck Trips:			184	62	246	70	164	234	3,228
Project Total Trips[2]			**760**	**198**	**958**	**260**	**667**	**927**	**10,964**

Source: Hesperia Commerce Center Traffic Impact Analysis, prepared by Hall & Foreman, Inc., dated August, 9, 2013.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

EXHIBIT 3: STUDY AREA



LEGEND:

0 = *Existing Intersection Analysis Location*

2019 Approved Project

The 2019 Traffic Study evaluated only the 3,303,800 square feet of high-cube fulfillment center warehouse use and reduced the total number of buildings from four to three on the west side of Caliente Road in comparison to the original Project evaluated in the 2013 Traffic Study. It should be noted that the three buildings evaluated in the 2019 Traffic Study have since been constructed and are currently operational. Table 2 summarizes the trip generation summary for the Project as evaluated in the 2019 Traffic Study (western portion of the overall Project evaluated in the 2013 Traffic Study). The Project evaluated in the 2019 Traffic Study generates a total of 9,004 two-way trips per day with 502 AM peak hour trips and 647 PM peak hour trips as shown in Table 2 (trips in passenger car equivalent or PCE). PCE factors were applied to heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. A PCE factor of 2.0 was utilized for 2-4 axle trucks and a factor of 3.0 for all 5+-axle trucks. The trip generation and previous site plan evaluated in the 2019 Traffic Study are provided in Appendix 2.

Table 2: 2019 Traffic Study Trip Generation Summary

2019 Trip Generation	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
2019 Traffic Study:									
Phase 1: High-Cube Fulfillment Ctr	1,079.000	TSF							
Passenger Cars:			86	26	112	44	112	156	1,888
Total Truck Trips (PCE):			40	12	52	16	40	56	1,052
Phase 1 Total Trips (PCE)[2]			**126**	**38**	**164**	**60**	**152**	**212**	**2,940**
Project Buildout: High-Cube Fulfillment Ctr.	3,303.800	TSF							
Passenger Cars:			262	78	340	133	343	476	5,782
Total Truck Trips (PCE):			125	37	162	48	123	171	3,222
2019 Project Buildout Total Trips (PCE)[2]			**387**	**115**	**502**	**181**	**466**	**647**	**9,004**
2013 Traffic Study (see Table 1):									
Passenger Cars:			576	136	712	190	503	693	7,736
Total Truck Trips:			184	62	246	70	164	234	3,228
2013 Project Buildout Total Trips (PCE)[2]			**760**	**198**	**958**	**260**	**667**	**927**	**10,964**
Net Remaining Trips:									
Passenger Cars:			314	58	372	57	160	217	1,954
Total Truck Trips (PCE):			59	25	84	22	41	63	6
Remaining Total Trips (PCE)[2]			**373**	**83**	**456**	**79**	**201**	**280**	**1,960**

Source: Hesperia Commerce Center Traffic Impact Analysis, prepared by Urban Crossroads, Inc., dated October 4, 2019.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

Table 2 also provides a comparison to the original 2013 Traffic Study and identifies the surplus of remaining trips from the original approval which included the business park component on the east side of Caliente Road. Note that PCE trips were not evaluated in the 2013 Traffic Study and the trips reflected in Table 2 do not account for PCE trips for the 2013 Traffic Study.

Although approved, there is currently a 960,000 square foot building that is currently unoccupied from the 2019 approvals (Building 2). As such, the traffic for this building has been manually added to future traffic conditions along with the proposed Project on Lot 5 based on the trip generation rates utilized in the 2019 Traffic Study. This unoccupied building is anticipated generate a total of 2,616 two-way trips per day with 146 AM peak hour trips and 189 PM peak hour trips as shown in Table 3 (in PCE).

TABLE 3: BUILDING 2 TRIP GENERATION SUMMARY

Building 2 Trip Generation	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building 2 - Built/Unoccupied	960.000	TSF							
Passenger Cars:			76	23	99	39	100	139	1,680
Total Truck Trips (PCE):			36	11	47	14	36	50	936
Building 2 Total Trips (PCE)[2]			**112**	**34**	**146**	**53**	**136**	**189**	**2,616**

Source: Same trip generation rates as Hesperia Commerce Center Traffic Impact Analysis.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

PROPOSED PROJECT

The proposed Project is a 150,000 square foot warehouse building located on the east side of Caliente Road, which is the remaining development of the original Project evaluated in 2013.

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used. In an effort to conduct a conservative analysis, the General Light Industrial (ITE 110) land use category has been used for the proposed 150,000 square foot warehouse which has a higher trip generation rate than a typical Warehouse (ITE 150). Table 4 summarizes the trip generation rates. For purposes of this assessment, the following ITE land use code and vehicle mix has been used for the proposed 150,000 square foot building:

- ITE land use code 110 (General Light Industrial) has been used to derive site specific trip generation estimates for up to 150,000 square feet of the proposed Project. A light industrial facility is a free-standing facility devoted to a single use that has an emphasis on activities other than manufacturing. Typically, there is minimum office space. The vehicle mix has been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

TABLE 4: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Rates:									
General Light Industrial[3]	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks			0.004	0.002	0.006	0.003	0.003	0.006	0.157
PCE Rates:									
General Light Industrial[3]	TSF	110	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (PCE = 1.5)			0.002	0.001	0.003	0.002	0.001	0.003	0.063
3-Axle Trucks (PCE = 2.0)			0.002	0.002	0.004	0.002	0.002	0.004	0.104
4+-Axle Trucks (PCE = 3.0)			0.012	0.007	0.019	0.009	0.010	0.019	0.470

[1] Trip Generation & Vehicle Mix Source: ITE, Trip Generation Manual, 11th Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project (Lot 5 only) are summarized in Table 5. The proposed Project is anticipated to generate 790 two-way trips per day with 113 AM peak hour trips and 98 PM peak hour trips (in PCE).

TABLE 5: PROJECT TRIP GENERATION SUMMARY

Proposed Project	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE):									
General Light Industrial	150.000	TSF							
Passenger Cars:			97	13	110	13	83	96	694
Total Truck Trips (PCE):			2	1	3	1	1	2	96
Proposed Project Total Trips (PCE)[2]			**99**	**14**	**113**	**14**	**84**	**98**	**790**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

Trip Generation Comparison

Table 6 shows the trip generation comparison between the approved Project (per the 2013 Traffic Study) and proposed Project (2019 Traffic Study plus 150,000 square foot warehouse on Lot 5) and identifies the resulting net change in trips. As shown, the proposed Project is anticipated to generate 1,170 fewer two-way trips per day with 343 fewer AM peak hour trips and 182 fewer PM peak hour trips as compared to the approved Project (in PCE).

Table 6: Trip Generation Comparison

Trip Generation Comparison	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE):									
Approved Project (2013 Traffic Study)	3,545.792	TSF							
Passenger Cars:			576	136	712	190	503	693	7,736
Total Truck Trips (PCE):			184	62	246	70	164	234	3,228
Approved Project Total Trips (PCE)[2]			760	198	958	260	667	927	10,964
Proposed Project (2019 Traffic Study + Lot 5)	3,453.800	TSF							
Passenger Cars:			359	91	450	146	426	572	6,476
Total Truck Trips (PCE):			127	38	165	49	124	173	3,318
Proposed Project Total Trips (PCE)[2]			486	129	615	195	550	745	9,794
Net Change in Trips									
Passenger Cars			-217	-45	-262	-44	-77	-121	-1,260
Trucks			-57	-24	-81	-21	-40	-61	90
Net Change in Project Trips (PCE)[2]			**-274**	**-69**	**-343**	**-65**	**-117**	**-182**	**-1,170**

Note: Negative number indicates net reduction in trips.

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

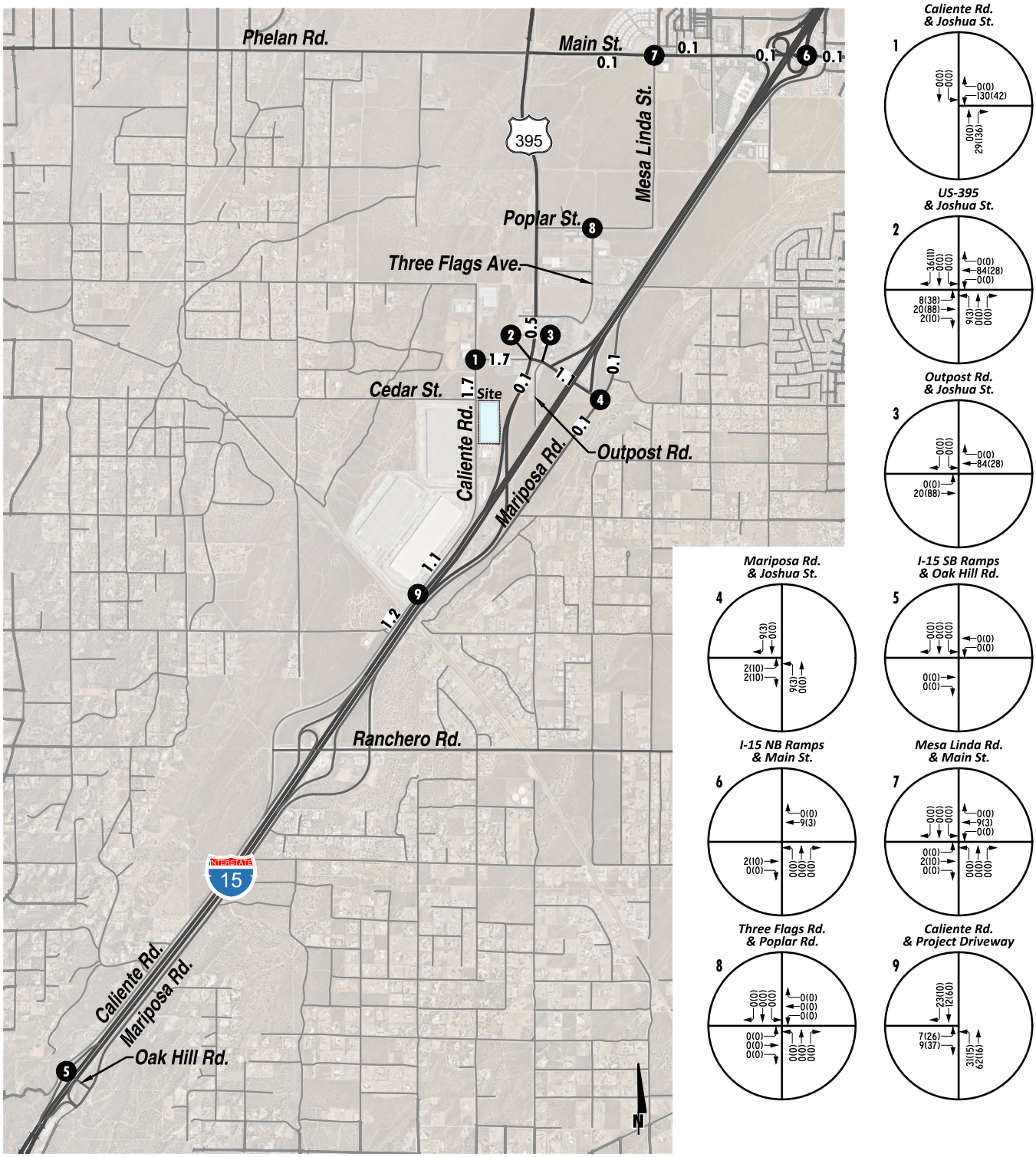
Project Trip Distribution

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Project trip distribution patterns for both passenger cars and trucks are consistent with the distribution patterns utilized in the 2019 Traffic Study. The same distribution patterns have been applied to Building 2 and the proposed Project (Lot 5).

Project Trip Assignment

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT and peak hour intersection turning movement volumes are shown on Exhibit 4.

EXHIBIT 4: PROJECT ONLY VOLUMES (PCE)



LEGEND:

- **0** = *Existing Intersection Analysis Location*
- 00(00) = *Peak Hour Volume AM(PM)*
- **00** = *Average Daily Traffic (ADT) In Thousands*

EXISTING (2025) CONDITIONS

VOLUME DEVELOPMENT

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected on Tuesday, February 11, 2025, at the applicable study area intersections. The raw manual peak hour turning movement traffic count data sheets for the study area intersections are included in Appendix 3 and graphically depicted in Exhibit 5. Note that volumes shown in Exhibit 5 are expressed in PCE (as utilized in the intersection operations analysis). The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

INTERSECTIONS

Exhibit 6 illustrates the existing lanes and intersection controls that have been evaluated and reflected in Table 7. Table 7 provides a summary of the current intersection operations analysis for Existing (2025) traffic conditions. As shown in Table 7, the study area intersection are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

- I-15 SB Ramps & Oak Hill Rd. (#5) – LOS E AM peak hour only

The intersection operations analysis worksheets for Existing (2025) traffic conditions are included in Appendix 4.

TABLE 7: EXISTING (2025) INTERSECTION ANALYSIS

#	Intersection	Traffic Control[2]	Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM
1	Caliente Rd. & Joshua St.	CSS	11.1	9.7	B	A
2	US-395 & Joshua St.	TS	14.9	18.2	B	B
3	Outpost Rd. & Joshua St.	CSS	12.4	12.7	B	B
4	Mariposa Rd. & Joshua St.	CSS	12.6	10.4	B	B
5	I-15 SB Ramps & Oak Hill Rd.	CSS	**35.9**	10.9	**E**	B
6	I-15 NB Ramps & Main St.	TS	8.7	13.6	A	B
7	Mesa Linda Rd. & Main St.	TS	15.4	20.2	B	C
8	Three Flags Av. & Poplar Rd.	TS	9.6	10.0	A	A
9	Caliente Rd. & Project Driveway	CSS	9.4	8.7	A	A

* **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

2 TS = Traffic Signal; CSS = Cross-Street Stop

Traffic Signal Warrants

The traffic signal warrant analysis for Existing traffic conditions is based on peak hour volume-based traffic signal warrants. There are no existing intersections that are anticipated to meet peak hour volume-based traffic signal warrants (see Appendix 5).

Exhibit 5: Existing (2025) Volumes (PCE)

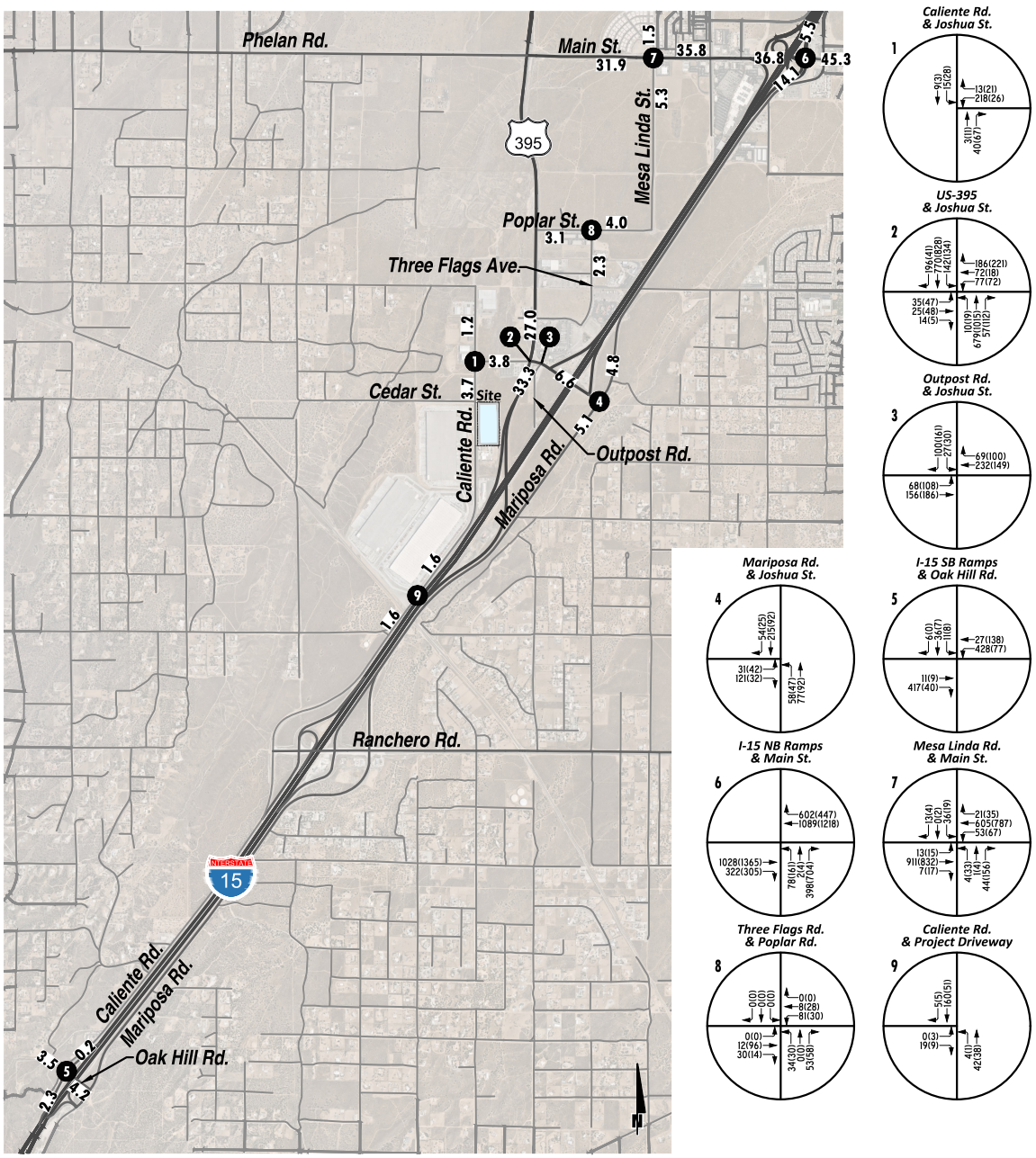
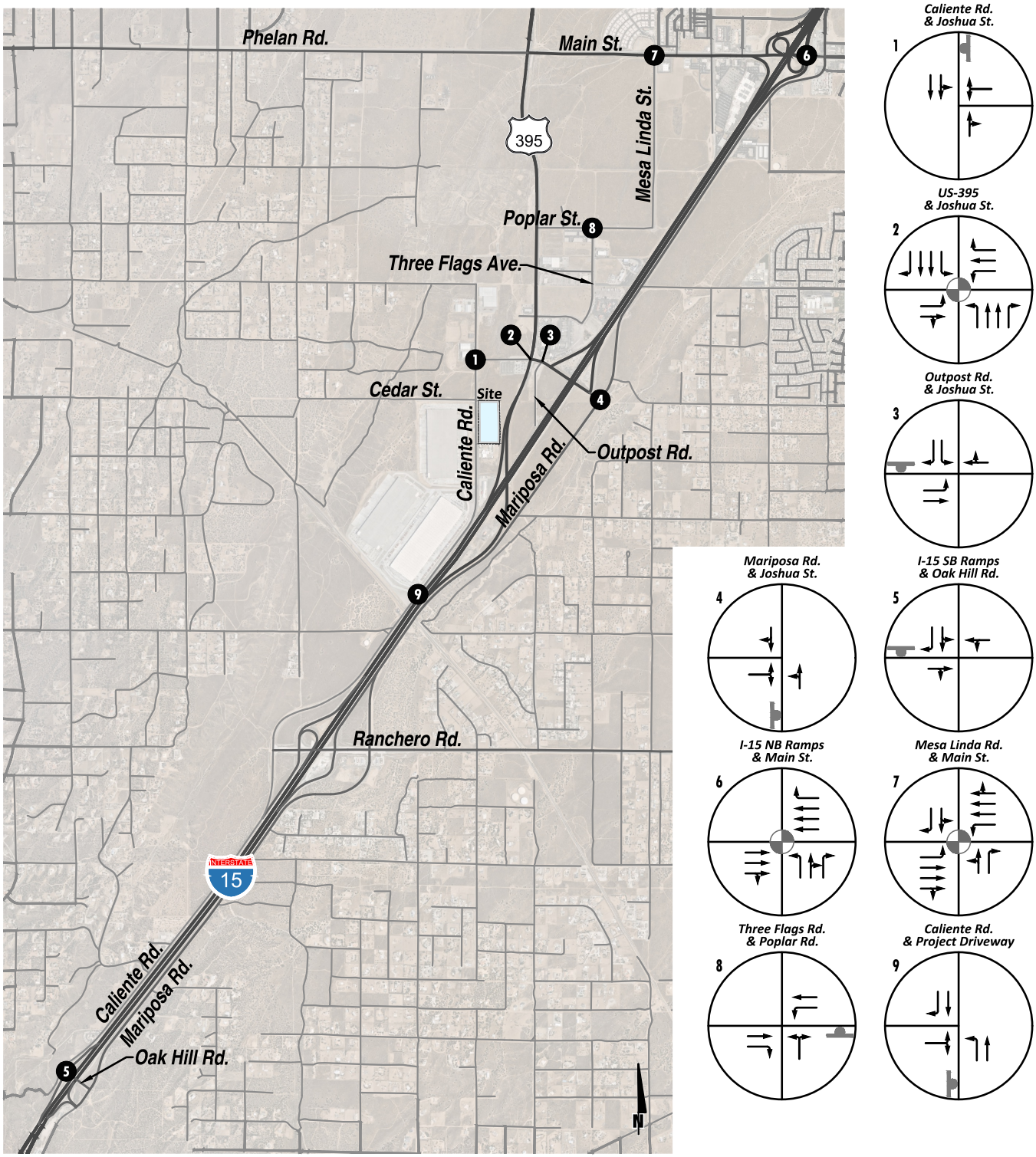


EXHIBIT 6: EXISTING INTERSECTION CONTROLS AND LANES



LEGEND:

- = *Existing Intersection Analysis Location*
- = *Existing Traffic Signal*
- = *Existing Stop Sign*
- = *Existing Lane*

E+P CONDITIONS

VOLUME DEVELOPMENT

This scenario includes existing volumes and the addition of Project traffic (both the unoccupied Building 2 and Lot 5). The weekday AM and PM peak hour volumes for E+P traffic conditions are provided in Exhibit 7.

INTERSECTIONS

Table 8 provides a summary of the intersection operations analysis for E+P traffic conditions. As shown in Table 8, the study area intersection is anticipated to operate at an acceptable LOS during the peak hours under E+P traffic conditions, with the exception of the following intersection which was also operating at a deficient LOS under Existing traffic conditions:

- I-15 SB Ramps & Oak Hill Rd. (#5) – LOS E AM peak hour only

The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 6.

TABLE 8: E+P INTERSECTION ANALYSIS

#	Intersection	Traffic Control[2]	Existing (2025)				Existing plus Project			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Caliente Rd. & Joshua St.	CSS	11.1	9.7	B	A	13.6	11.3	B	B
2	US-395 & Joshua St.	TS	14.9	18.2	B	B	15.8	19.5	B	B
3	Outpost Rd. & Joshua St.	CSS	12.4	12.7	B	B	13.3	13.6	B	B
4	Mariposa Rd. & Joshua St.	CSS	12.6	10.4	B	B	12.9	10.6	B	B
5	I-15 SB Ramps & Oak Hill Rd.	CSS	**35.9**	10.9	**E**	B	**35.9**	10.9	**E**	B
6	I-15 NB Ramps & Main St.	TS	8.7	13.6	A	B	8.7	13.6	A	B
7	Mesa Linda Rd. & Main St.	TS	15.4	20.2	B	C	15.4	20.3	B	C
8	Three Flags Av. & Poplar Rd.	TS	9.6	10.0	A	A	9.6	10.0	A	A
9	Caliente Rd. & Project Driveway	CSS	9.4	8.7	A	A	9.9	9.6	A	A

* **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

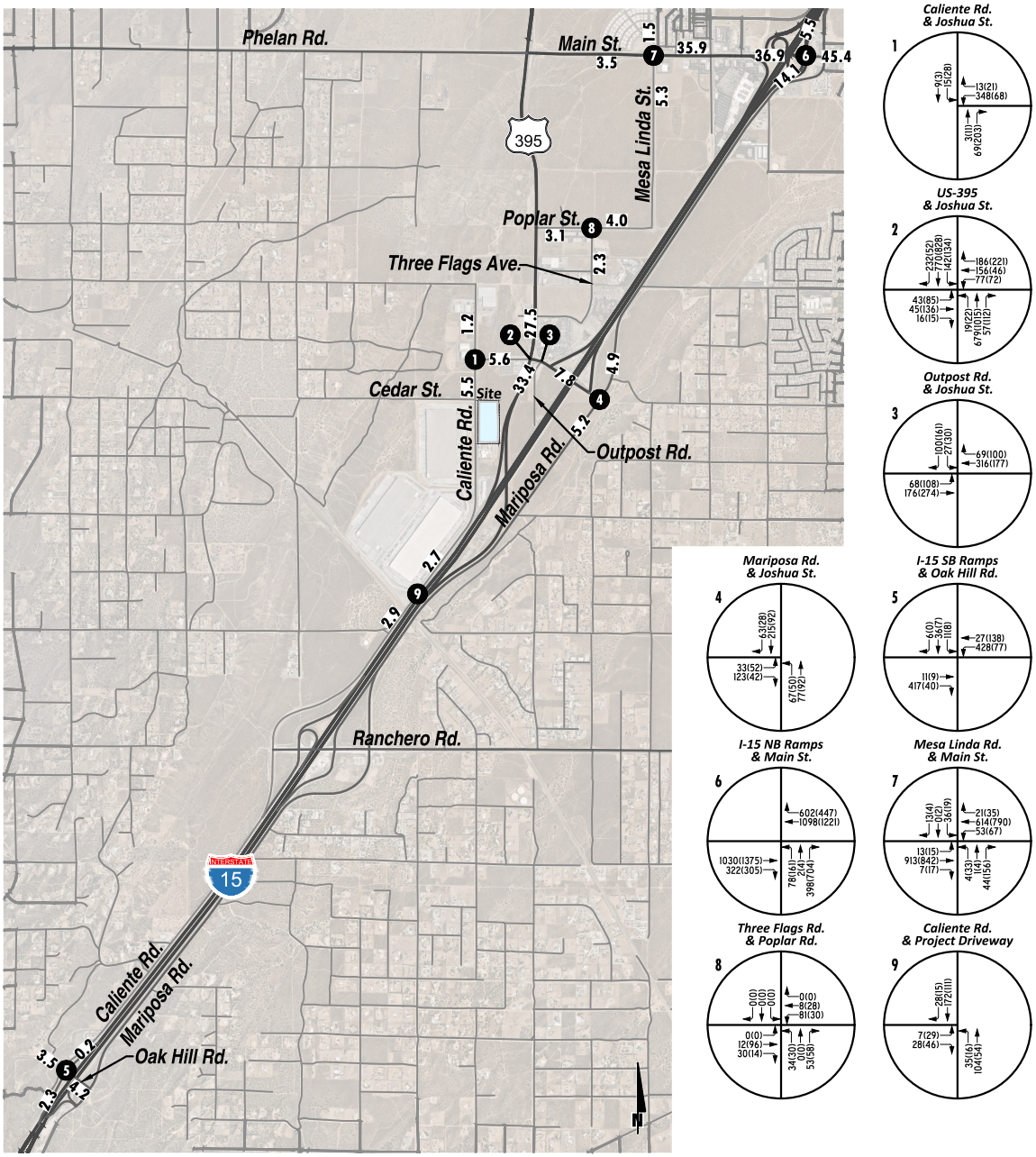
[1] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; CSS = Cross-Street Stop

TRAFFIC SIGNAL WARRANTS

The traffic signal warrant analysis for E+P traffic conditions is based on peak hour volume-based traffic signal warrants. The intersection of Outpost Road and Joshusa Street is anticipated to meet a peak hour volume-based warrant under E+P traffic conditions (see Appendix 7). However, since the intersection is anticipated to operate at an acceptable LOS, no signalization has been recommended.

EXHIBIT 7: E+P VOLUMES (PCE)



LEGEND:

0 = *Existing Intersection Analysis Location*

00(00) = *Peak Hour Volume AM(PM)*

00 = *Average Daily Traffic (ADT) In Thousands*

E+P Recommendations

The only deficient intersection is the intersection of I-15 SB Ramps and Oak Hills Road. However, the Project is not anticipated to contribute any traffic to this analysis location. As such, no intersection improvements have been identified.

OPENING YEAR CUMULATIVE (2026) CONDITIONS

Volume Development

Opening Year Cumulative (2026) traffic volumes are based on the manual addition of existing volumes, an ambient growth factor of 2.0% (2 percent over 1 year), and traffic generated by known cumulative development projects. Exhibit 8 identifies the locations of the preliminary list of cumulative projects and the list of these projects is provided in Table 9. Cumulative development project only volumes are identified in Exhibit 9.

Project traffic was then added for Opening Year Cumulative (2026) With Project traffic conditions. The weekday AM and PM peak hour volumes for the Opening Year Cumulative (2026) Without and With Project traffic conditions are provided in Exhibits 10 and 11, respectively.

Intersections

Table 10 provides a summary of the intersection operations analysis for Opening Year Cumulative (2026) traffic conditions. As shown in Table 10, the study area intersections are anticipated to operate at an acceptable LOS during the peak hours under Opening Year Cumulative (2026) Without Project traffic conditions, with the exception of the following locations:

- US-395 & Joshua St. (#2) – LOS F AM and PM peak hours
- I-15 SB Ramps & Oak Hill Rd. (#5) – LOS E AM peak hour only

The addition of Project traffic is not anticipated to result in any additional deficiencies. The intersection operations analysis worksheets for Opening Year Cumulative (2026) Without and With Project traffic conditions are included in Appendices 8 and 9, respectively.

EXHIBIT 8: CUMULATIVE DEVELOPMENT PROJECT LOCATION MAP

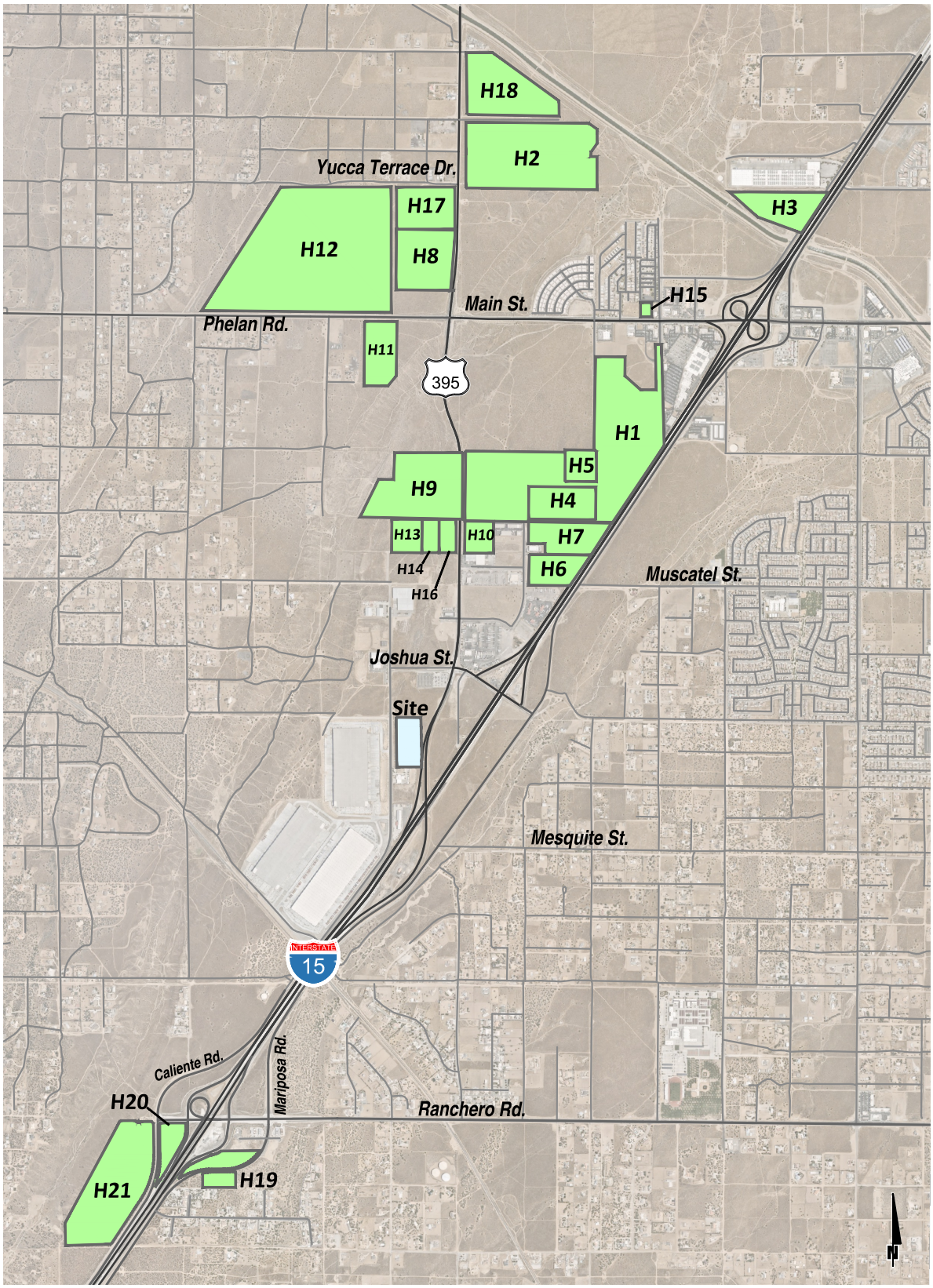
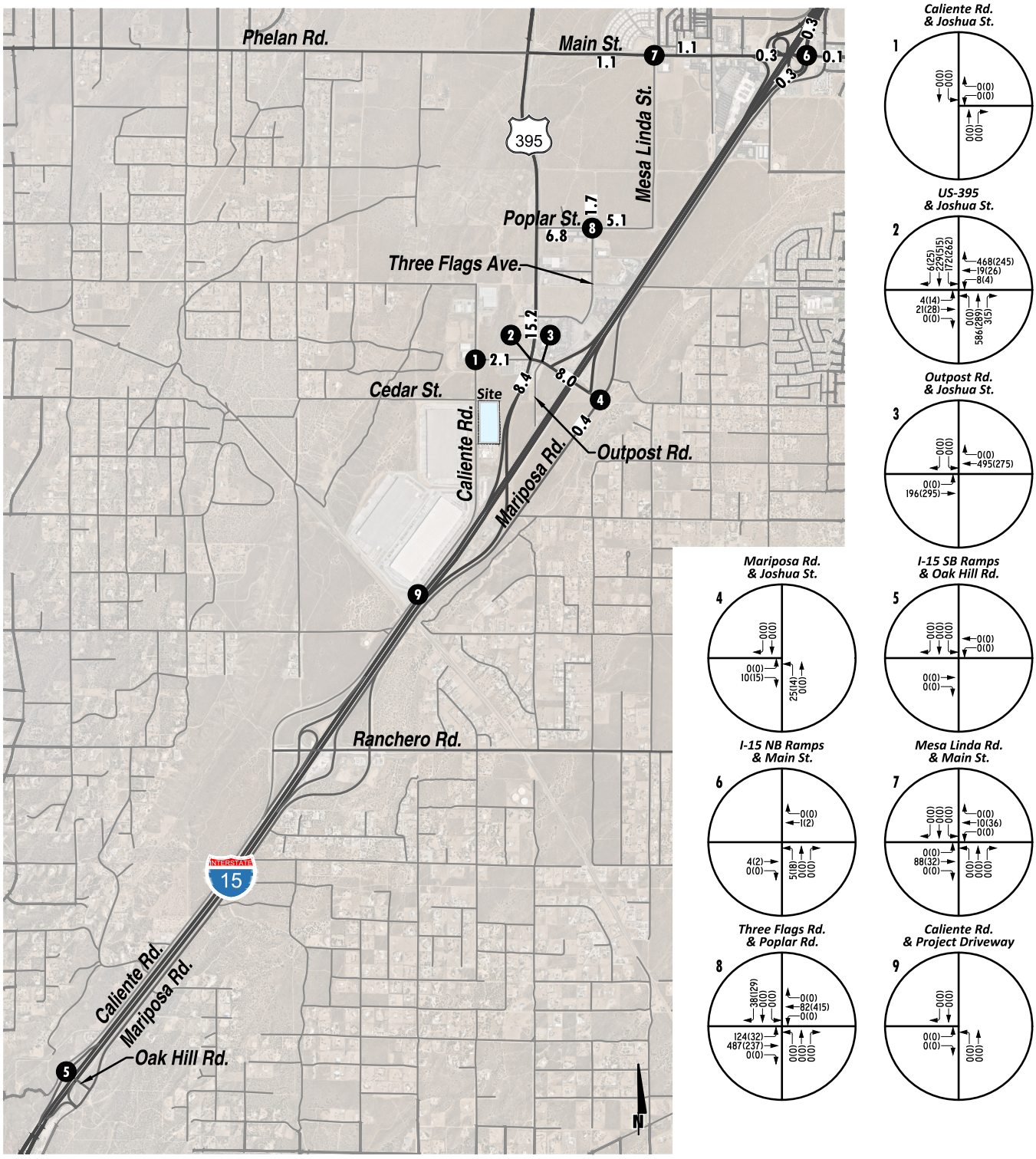


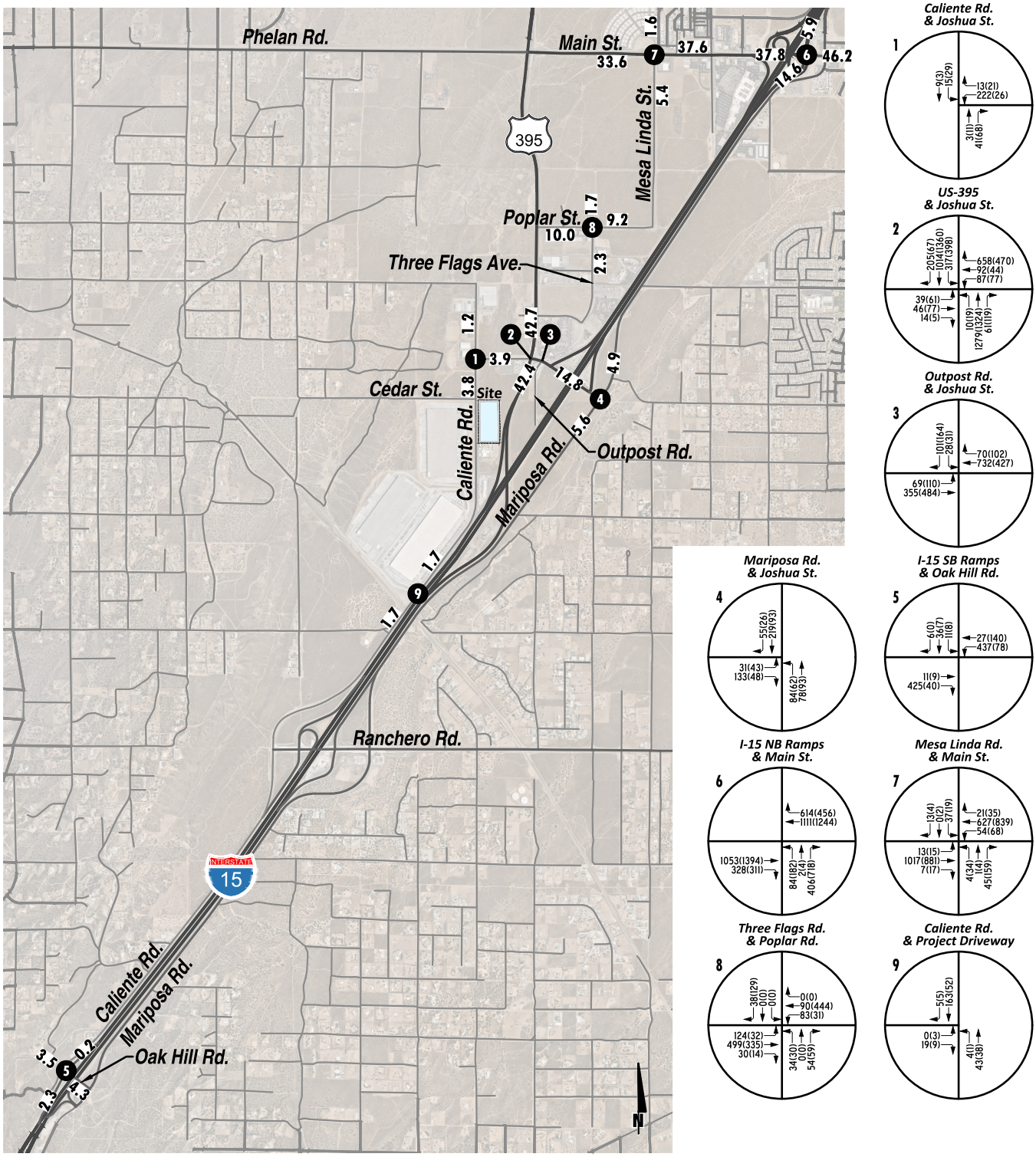
EXHIBIT 9: CUMULATIVE DEVELOPMENT PROJECT ONLY VOLUMES (PCE)



LEGEND:

- **0** = *Existing Intersection Analysis Location*
- 00(00) = *Peak Hour Volume AM(PM)*
- **00** = *Average Daily Traffic (ADT) In Thousands*

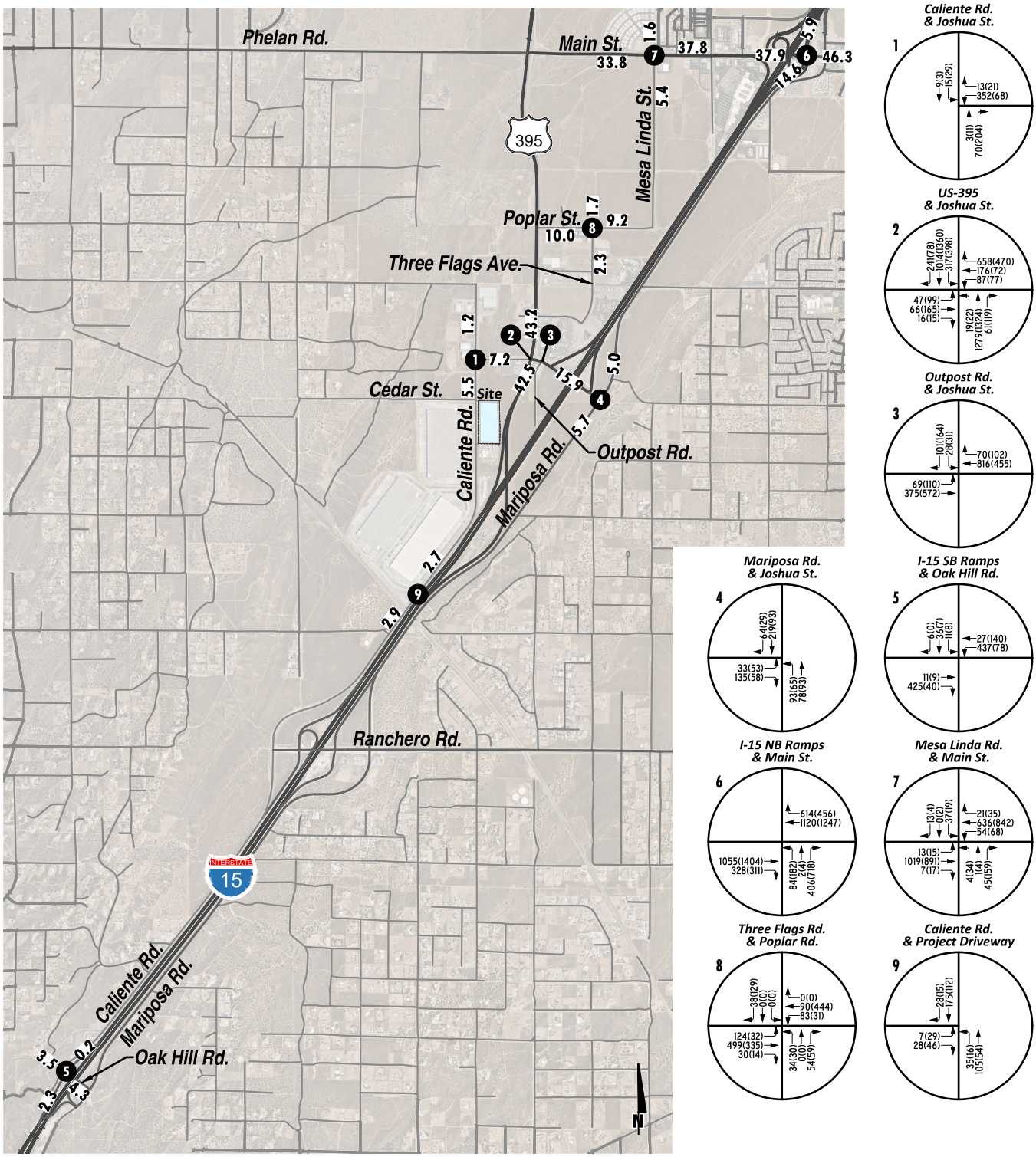
EXHIBIT 10: OPENING YEAR CUMULATIVE (2026) WITHOUT PROJECT VOLUMES (PCE)



LEGEND:

- **0** = *Existing Intersection Analysis Location*
- 00(00) = *Peak Hour Volume AM(PM)*
- **00** = *Average Daily Traffic (ADT) In Thousands*

EXHIBIT 11: OPENING YEAR CUMULATIVE (2026) WITH PROJECT VOLUMES (PCE)



LEGEND:

- **0** = *Existing Intersection Analysis Location*
- 00(00) = *Peak Hour Volume AM(PM)*
- **00** = *Average Daily Traffic (ADT) In Thousands*

TABLE 9: SUMMARY OF CUMULATIVE DEVELOPMENT PROJECT

#	Case No.	Land Use	Quantity	Units[1]
H1	I-15 Industrial Project	High-Cube Fulfillment Center	1,850.000	TSF
H2	US Cold Storage	High-Cube Cold Storage Warehouse	1,046.768	TSF
H3	Pixior	High-Cube Fulfillment Center	440.000	TSF
H4	Poplar 18 Industrial Park	High-Cube Fulfillment Center	414.700	TSF
H5	Newcastle (CUP22-00004)	High-Cube Fulfillment Center	400.000	TSF
H6	CUP22-00006	Self-Storage	428.000	Units
H7	CUP22-00016	General Light Industrial	74.924	TSF
		Gas Station with Convenience Store	18.000	VFP
H8	Kiss Logistics Center	High-Cube Fulfillment Center	655.468	TSF
H9	Hesperia Industrial Center	High-Cube Fulfillment Center (Non-Sort)	75.000	TSF
		High-Cube Cold Storage Warehouse	675.000	TSF
H10	SPR22-00017	High-Cube Fulfillment Center	142.634	TSF
H11	Phelan 20 (CUP23-00005)	High-Cube Fulfillment Center	419.700	TSF
H12	HCC II	High-Cube Fulfillment Center	2,517.413	TSF
H13	SPR24-00006	High-Cube Fulfillment Center	91.569	TSF
H14	CUP23-00007	High-Cube Fulfillment Center	11.250	TSF
H15	Quick Quack Carwash	Car Wash	3.596	TSF
H16	Truck Center	Truck Storage/Parking	11.250	TSF
H17	Yucca Terrace	High-Cube Fulfillment Center	469.979	TSF
H18	Hesperia North Avenal	High-Cube Fulfillment Center	695.478	TSF
H19	Mariposa Commercial	Commercial Retail	41.750	TSF
		Automated Car Wash	1.000	Tunnel
		Hotel	205	Rooms
H20	Caliente Commercial (CUP25-00007)	Gas Station with C-Store and Car Wash	20	VFP
		Commercial Retail	3.600	TSF
		Fast-Food w/ Drive-Thru	1.545	TSF
		Coffee Shop w/ Drive-Thru	1.215	TSF
H21	Hesperia Gateway	High-Cube Fulfillment Center	1,051.780	TSF
		Commercial Retail	17.330	TSF
		Fast-Food w/ Drive-Thru	9.000	TSF
		Hotel	95	Rooms

[1] TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

TABLE 10: OPENING YEAR CUMULATIVE (2026) INTERSECTION ANALYSIS

#	Intersection	Traffic Control[2]	2026 Without Project				2026 With Project			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Caliente Rd. & Joshua St.	CSS	11.1	9.7	B	A	13.7	11.4	B	B
2	US-395 & Joshua St.	TS	**188.5**	**178.5**	**F**	**F**	**182.4**	**172.8**	**F**	**F**
3	Outpost Rd. & Joshua St.	CSS	20.9	18.4	C	C	23.7	20.0	C	C
4	Mariposa Rd. & Joshua St.	CSS	13.2	10.5	B	B	13.6	10.8	B	B
5	I-15 SB Ramps & Oak Hill Rd.	CSS	**38.1**	10.9	**E**	B	**38.1**	10.9	**E**	B
6	I-15 NB Ramps & Main St.	TS	8.9	14.6	A	B	8.9	14.7	A	B
7	Mesa Linda Rd. & Main St.	TS	15.5	20.9	B	C	15.6	20.9	B	C
8	Three Flags Av. & Poplar Rd.	TS	15.1	15.2	C	C	15.1	15.2	C	C
9	Caliente Rd. & Project Driveway	CSS	9.4	8.8	A	A	9.9	9.6	A	A

* **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; CSS = Cross-Street Stop

TRAFFIC SIGNAL WARRANTS

The study area intersection of Outpost Road and Joshua Street is anticipated to meet a peak hour volume-based traffic signal warrant under Opening Year Cumulative (2026) Without Project traffic conditions (see Appendix 10). No additional warrants are anticipated to be met with the addition of Project traffic (see Appendix 11).

OPENING YEAR CUMULATIVE (2026) RECOMMENDATIONS

Improvement strategies have been identified at intersections that have been identified as deficient under Opening Year Cumulative (2026) traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2026) traffic deficiencies are presented in Table 11. Worksheets for Opening Year Cumulative (2026) With Project traffic conditions, with improvements, HCM calculation worksheets are provided in Appendix 12. Since the Project is not anticipated to contribute any traffic to the intersection of I-15 SB Ramps at Oak Hill Road, no intersection improvements have been identified at this location.

TABLE 11: OPENING YEAR CUMULATIVE (2026) WITH IMPROVEMENTS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
2	US-395 & Joshua St.																	
	- Without Improvements	TS	1	2	1	1	2	1	1	1	0	1	1	1	**182.4**	**172.8**	**F**	**F**
	- With Improvements	TS	1	**3**	**0**	1	2	1	1	1	0	1	1	**1>**	44.9	36.1	D	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; **1** = Improvement

[2] Per the Highway Capacity Manual 7th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal

HORIZON YEAR (2050) CONDITIONS

VOLUME DEVELOPMENT

Traffic projections for Horizon Year (2050) conditions were derived from the San Bernardino County Transportation Model (SBTAM) regional model using accepted procedures for model forecast refinement and smoothing. The traffic forecasts reflect the area-wide growth anticipated between Existing and Horizon Year traffic conditions. The base model year for the SBTAM regional model is Year 2019 and the future year model is Year 2050. Post-processing worksheets for Horizon Year Without Project traffic conditions are provided in Appendix 13. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2050) Without Project traffic conditions are shown in Exhibit 12. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2050) With Project traffic conditions are shown in Exhibit 13.

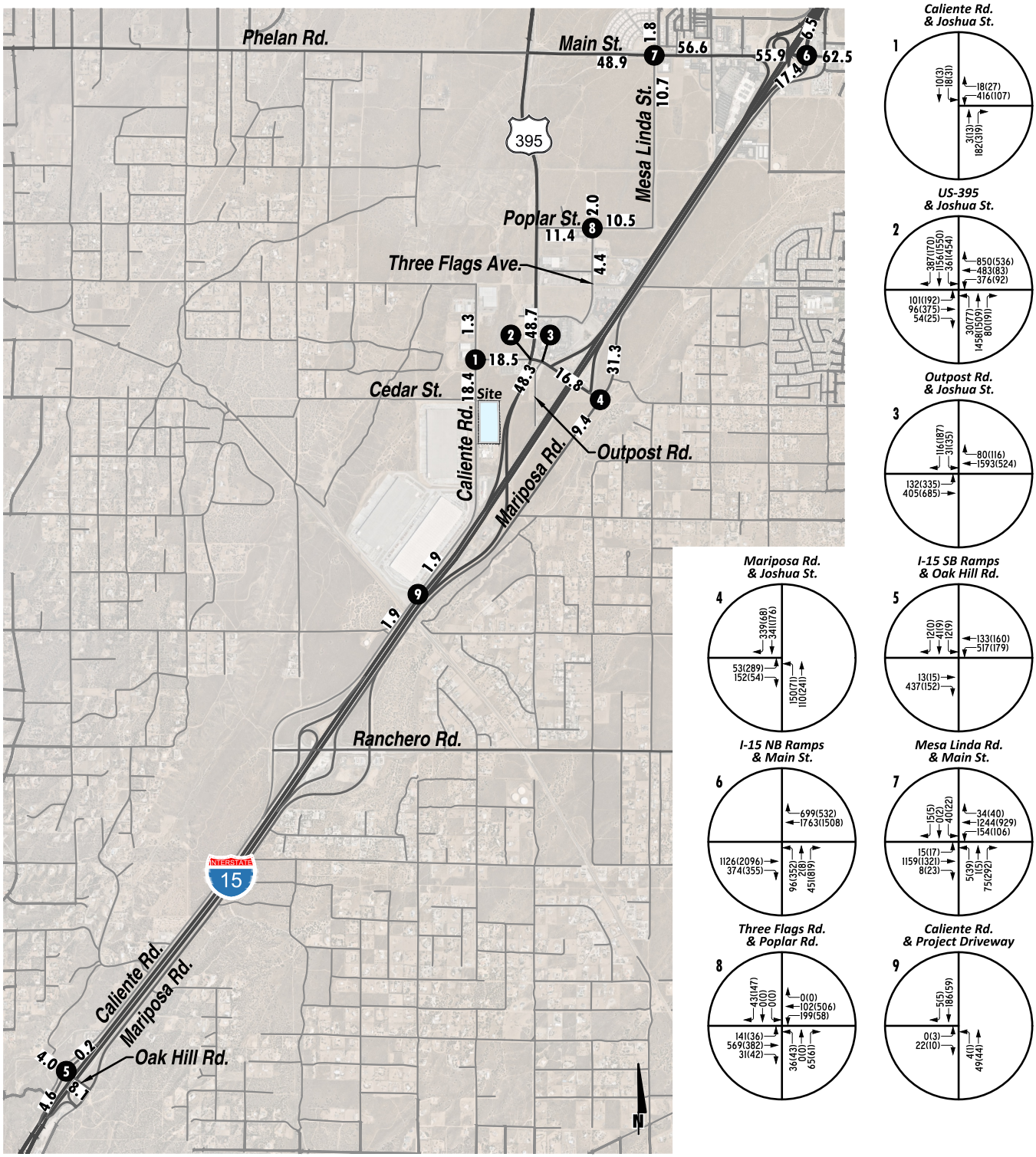
INTERSECTIONS

Table 12 provides a summary of the intersection operations analysis for Horizon Year (2050) traffic conditions. As shown in Table 12, the study area intersections are anticipated to operate at an acceptable LOS during the peak hours under Horizon Year (2050) Without Project traffic conditions, with the exception of the following locations:

- US-395 & Joshua St. (#2) – LOS F AM and PM peak hours
- Outpost Rd. & Joshua St. (#3) – LOS F AM peak hour; LOS E PM peak hour
- Mariposa Rd. & Joshua St. (#4) – LOS E AM and PM peak hours
- I-15 SB Ramps & Oak Hill Rd. (#5) – LOS F AM peak hour only
- Mesa Linda Rd. & Main St. (#7) – LOS E PM peak hour only

The addition of Project traffic is not anticipated to result in any new deficient intersections. The intersection operations analysis worksheets for Horizon Year (2050) Without and With Project traffic conditions are included in Appendices 14 and 15, respectively.

EXHIBIT 12: HORIZON YEAR (2050) WITHOUT PROJECT VOLUMES (PCE)



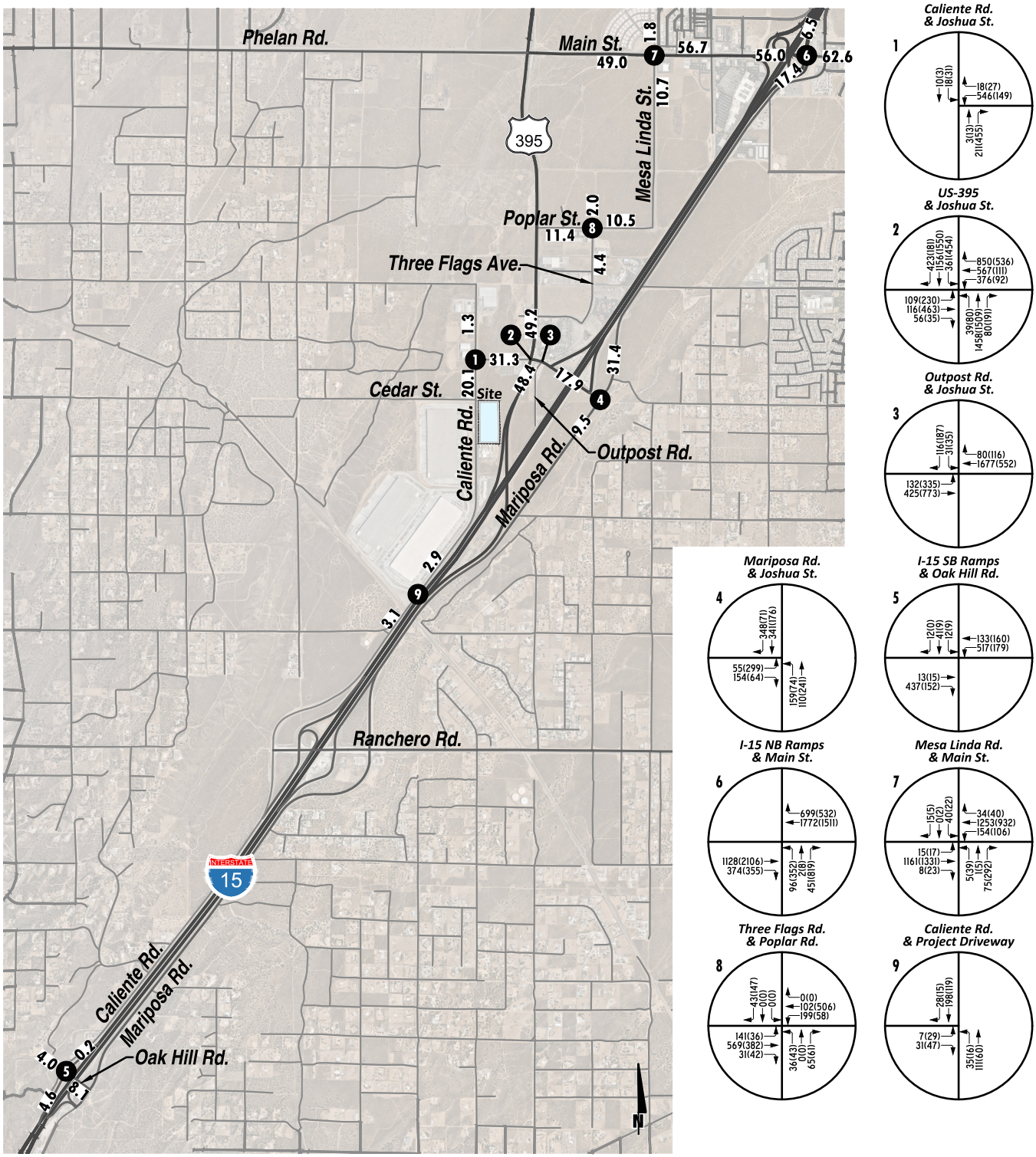
LEGEND:

0 = *Existing Intersection Analysis Location*

00(00) = *Peak Hour Volume AM(PM)*

00 = *Average Daily Traffic (ADT) In Thousands*

EXHIBIT 13: HORIZON YEAR (2050) WITH PROJECT VOLUMES (PCE)



LEGEND:

- **0** = *Existing Intersection Analysis Location*
- 00(00) = *Peak Hour Volume AM(PM)*
- **00** = *Average Daily Traffic (ADT) In Thousands*

TABLE 12: HORIZON YEAR (2050) INTERSECTION ANALYSIS

#	Intersection	Traffic Control[2]	2050 Without Project				2050 With Project			
			Delay[1] (secs.)		Level of Service		Delay[1] (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Caliente Rd. & Joshua St.	CSS	18.2	13.9	C	B	34.3	19.3	D	C
2	US-395 & Joshua St.	TS	**196.2**	**>200.0**	**F**	**F**	**194.1**	**>200.0**	**F**	**F**
3	Outpost Rd. & Joshua St.	CSS	**>200.0**	**42.1**	**F**	**E**	**>200.0**	**47.4**	**F**	**E**
4	Mariposa Rd. & Joshua St.	CSS	**48.8**	**48.7**	**E**	**E**	**57.6**	**58.2**	**F**	**F**
5	I-15 SB Ramps & Oak Hill Rd.	CSS	**111.8**	14.4	**F**	B	**111.8**	14.4	**F**	B
6	I-15 NB Ramps & Main St.	TS	9.9	26.8	A	C	9.9	27.1	A	C
7	Mesa Linda Rd. & Main St.	TS	23.9	**71.3**	C	**E**	23.9	**71.4**	C	**E**
8	Three Flags Av. & Poplar Rd.	TS	19.6	19.6	C	C	19.6	19.6	C	C
9	Caliente Rd. & Project Driveway	CSS	9.6	8.8	A	A	10.1	9.6	B	A

* **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

[2] TS = Traffic Signal; CSS = Cross-Street Stop

TRAFFIC SIGNAL WARRANTS

The intersections of Caliente Road and Mariposa Road on Joshua Street are anticipated to meet peak hour volume-based traffic signal warrants under Horizon Year (2050) Without Project traffic conditions (see Appendix 16). No additional warrants are anticipated to be met with the addition of Project traffic (see Appendix 17).

HORIZON YEAR (2050) RECOMMENDATIONS

Improvement strategies have been identified at intersections that have been identified as deficient under Horizon Year (2050) traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address Horizon Year (2050) traffic deficiencies are presented in Table 13. Worksheets for Horizon Year (2050) With Project traffic conditions, with improvements, HCM calculation worksheets are provided in Appendix 18. Since the Project is not anticipated to contribute any traffic to the intersection of I-15 SB Ramps at Oak Hill Road, no intersection improvements have been identified at this location.

TABLE 13: HORIZON YEAR (2050) WITH IMPROVEMENTS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
2	US-395 & Joshua St.																	
	- Without Improvements	TS	1	2	1	1	2	1	1	1	0	1	1	1	**194.1**	**>200.0**	**F**	**F**
	- With Improvements	TS	1	**3**	**0**	**2**	2	1	1	1	0	**2**	1	**1>**	55.0	49.8	D	D
3	Outpost Rd. & Joshua St.																	
	- Without Improvements	CSS	0	0	0	1	0	1	d	1	0	0	1	0	**>200.0**	**47.4**	**F**	**E**
	- With Improvements	**TS**	0	0	0	1	0	1	**1**	**2**	0	0	**2**	0	23.8	14.4	C	B
4	Mariposa Rd. & Joshua St.																	
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	0	0	**57.6**	**58.2**	**F**	**F**
	- With Improvements	**TS**	**1**	1	0	0	1	0	0	1	0	0	0	0	46.3	14.4	D	B
7	Mesa Linda Rd. & Main St.																	
	- Without Improvements	TS	0	1	1	0	1	1	1	3	0	1	3	0	23.9	**71.4**	C	**E**
	- With Improvements[4]	TS	0	1	1	0	1	1	1	3	0	1	3	0	23.9	47.6	C	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto turn lane; > = Right-Turn Overlap Phasing; **1** = Improvement

2 Per the Highway Capacity Manual 7th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

3 TS = Traffic Signal; CSS = Cross-Street Stop; **TS** = Improvement

4 Increase the PM peak hour cycle length to at least 80 seconds. No other physical improvements recommended.

MITIGATION MEASURES

A summary of the MM is provided in Table 14. Based on the analysis results summarized on the previous tables, the Project should contribute its fair share towards the improvements recommended at both Mariposa Road at Joshua Street and Mesa Linda Road at Main Street. Some improvements have been constructed or are no longer applicable (or conditioned on other development).

FAIR SHARE

Detailed fair share calculations are provided in Table 15 for the affected intersections. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases. The Project would also be subject to the City's Development Impact Fees (DIF).

TABLE 15: FAIR SHARE

#	Intersection	Existing (2025)	Project Only	2050 With Project	Net New Traffic	Project % of New Traffic
4	Mariposa Rd. & Joshua St.					
	AM:	554	22	1,167	613	3.6%
	PM:	329	26	925	596	**4.4%**
7	Mesa Linda Rd. & Main St.					
	AM:	1,707	11	2,761	1,054	1.0%
	PM:	1,970	13	2,814	844	**1.5%**

BOLD = Denotes highest fair share percentage.

TABLE 14: SUMMARY OF MITIGATION MEASURES

#	MM: Intersection	Mitigation Measure Detail	Compliance Action	Current Recommendation
1	TR-4: Caliente Rd. & Joshua St. * Also Condition of Approval 28	Install a traffic signal NB right turn lane SB left turn lane WB dual lefts	Installation of TS and improvements	Not Applicable
2	TR-5 & 6: US-395 & Joshua St.	Widen to two WB through lanes 3rd NB through lane 2nd SB left turn lane 2nd WB left turn lane 2nd WB through lane	Installation of TS and improvements	Not Applicable Constructed by others[1] Constructed by others[1] Constructed by others[1] Not Applicable
3	TR-7: Outpost Rd. & Joshua St.	Install a traffic signal[2] NB left turn lane NB right turn lane Restripe for SB left-through and right turn lane EB left turn lane 2nd EB through lane EB right turn lane Dual WB left turn lanes 2nd WB through lane WB right turn lane	Installation of TS and improvements as required by the proponents of the Love's Travel Center project	Constructed by others[1] Not Applicable Not Applicable Not Applicable Constructed by others[1] Constructed by others[1] Not Applicable Not Applicable Constructed by others[1] Not Applicable
4	TR-8: Mariposa Rd. & Joshua St.	Install a traffic signal NB left turn lane SB left turn lane	Installation of TS and improvements OR payment of an amount determined by City for fair share in lieu fees	Fair Share Fair Share Not Applicable

#	MM: Intersection	Mitigation Measure Detail	Compliance Action	Current Recommendation
5	TR-9: I-15 SB Ramps & Oak Hill Rd.	Install a traffic signal EB free-right turn lane	Installation of TS and improvements OR payment of an amount determined by City for fair share in lieu fees	Not Applicable Not Applicable
6	TR-10: I-15 NB Ramps & Main St.	2nd NB right turn lane	Installation of TS and improvements OR payment of an amount determined by City for fair share in lieu fees	Not Applicable
7	TR-11: Mesa Linda Rd. & Main St.	Install a traffic signal NB shared left-through-right EB left turn lane WB 2nd shared through-right turn lane	Installation of TS and improvements OR payment of an amount determined by City for fair share in lieu fees	Exists Exists: NB left-through and right turn lane Exists Exists: 2 WB through lanes and shared through-right turn lane
8	TR-12: Three Flags Av. & Poplar Rd.	Install a traffic signal NB left turn lane SB left turn lane SB shared through-right turn lane EB left turn lane 2nd EB through lane WB left turn lane WB right turn lane	Installation of TS and improvements OR payment of an amount determined by City for fair share in lieu fees	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
9	Caliente Rd. & Project Driveway Condition of Approval 28	Install traffic signal per Traffic Study	Installation of TS and improvements	Not Applicable

[1] As identified in MM TR-6 & TR-7, improvements to be constructed by the Love's Travel Center project.

[2] Signal to be coordinated with Highway 395 and Joshua Street.

FINDINGS

Based on the summary of improvements and mitigation measures identified in Table 14, the following recommendations have been identified for each of the applicable locations:

- MM TR-4: **Joshua Street & Caliente Road** (#1) – Not applicable as the intersection does not require these improvements to achieve acceptable peak hour LOS operations under Horizon Year (2050) traffic conditions.
- MM TR-5: **Highway 395 & Joshua Street** (#2) – Improvements to be constructed by Love's Travel Center project. It should be noted that improvements to this intersection are only needed for Opening Year Cumulative and Horizon Year traffic conditions (near-term and long-range cumulative traffic conditions).
- MM TR-6: **Highway 395 & Joshua Street** (#2) – The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project and are to be constructed to the Ultimate design, but are not applicable to the Project.
- MM TR-7: **Joshua Street & Outpost Road** (#3) – The improvements identified for this intersection are project specific mitigations for the proposed Love's Travel Center project and are not applicable to the Project.
- MM TR-8: **Joshua Street & Mariposa Road** (#4) – This future improvement will be funded by City of Hesperia DIF. The Project should either pay its fair share contribution (as noted in Table 14) or contribute via its participation in the City's DIF program. As such, the Project is proposing to modify MM TR-8.
- MM TR-9: **Oak Hill Road & 1-15 Southbound Ramps** (#5) – This future improvement will be funded by a combination of City of Hesperia DIF and State Funds. While the Project would contribute towards this location through payment of applicable DIF fees, the Project does not contribute any traffic to this location and therefore, no improvements have been recommended at this location nor has any fair share percentage been identified (MM not applicable to the Project). Given the proximity of the Ranchero Road interchange, the Project is not anticipated to send any traffic to the Oak Hill Road interchange and in instances where congestion were to occur at Ranchero Road interchange due to emergencies then the traffic attributable to Oak Hills Road would likely be less than 50 peak hour trips and therefore falling below the City's threshold for analysis as the contribution of 50 peak hour trips typically has a nominal effect on peak hour intersection operations.
- MM TR-10: **Main Street & I-15 Northbound Ramps** (#6) – This future improvement will be funded by a combination of state and local funds. Most improvements identified at this location exist with the exception of the 2nd northbound right turn lane. However, this analysis indicates there are no deficiencies anticipated under Horizon Year traffic conditions and therefore is not applicable.
- MM TR-11: **Main Street & Mesa Linda Road** (#7) – This future improvement will be funded by City of Hesperia DIF. These improvements currently exist, however, signal timing modifications to the intersection's cycle length during the PM peak hour may be necessary under long-range traffic conditions to achieve acceptable LOS and therefore is not applicable.
- MM TR-12: **Poplar Road & Three Flags Road** (#8) – This future improvement will be funded by City of Hesperia DIF. While the Project would contribute towards this location through payment of applicable DIF fees, the Project does not contribute any traffic to this location. The analysis also indicates that improvements are not necessary to achieve acceptable peak hour operations and therefore is not applicable.

Many of the prior mitigation measures from the 2013 Traffic Study noted above are no longer applicable (or proposed to be modified for MM TR-8) in part due to changes in travel patterns associated with the completion of the I-15 Freeway interchange at Ranchero Road (which occurred in 2015 after the 2013 Traffic Study).

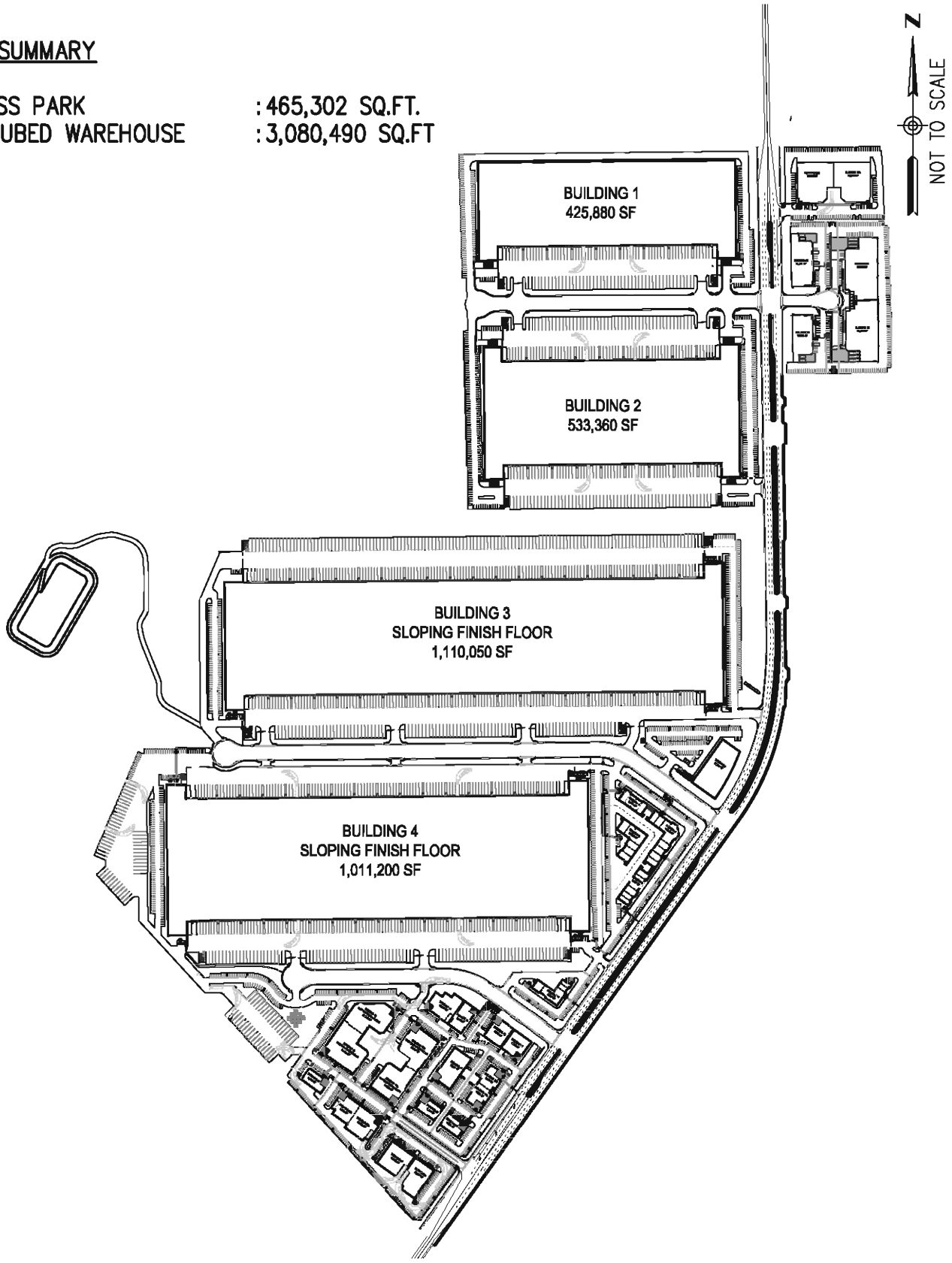
If you have any questions, please contact me directly at cso@urbanxroads.com.

APPENDIX 1:

TRIP GENERATION EXCERPTS FROM 2013 TRAFFIC STUDY

TABLE SUMMARY

BUSINESS PARK	: 465,302 SQ.FT.
HIGH-CUBED WAREHOUSE	: 3,080,490 SQ.FT



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Phn. 760-524-9100 Fax. 760-524-9101

SITE PLAN A

CALIENTE ROAD INDUSTRIAL BUILDINGS TRAFFIC STUDY

FIGURE 1-2

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3. PROJECT TRAFFIC CONDITIONS

3.1 Project Trip Generation

The project was analyzed to determine the amount of traffic that would be generated from the proposed development. To identify potential traffic impacts from the project, trip generation factors were applied to the type of use to generate project traffic estimates. The trip generation rates were obtained from the Institute of Transportation Engineers' trip generation report as presented in Table 3 and compared to similar developments consisting of nearly the same type of development and acreage.

TABLE 3-1
Project Trip Generation
Traffic Impact Analysis

			A.M. Peak Hour			P.M. Peak Hour		
	Use	Daily	In	Out	Total	In	Out	Total
1	**Business Park**							
	(ITE 770) Per 1000 SF	12.44	1.19	0.21	1.40	0.33	0.93	1.26
	465,302 SF	5,788	554	98	651	152	434	586
	5% Internal Capture	-	-28	-5	-33	-8	-22	-29
A	Net Trips	5,788	526	93	619	145	412	557
B	**Autos** (80%)	-	421	74	495	116	330	446
C	**Trucks** (20%)	-	105	19	124	29	82	111
2	**High-Cube Warehouse, Bldg 3&4**							
	(ITE 152) Per 1000 SF	1.68	0.07	0.03	0.11	0.03	0.08	0.12
E	3,080,490 SF (Total Trips)	5,175	234	105	339	115	255	370
F	**Autos** (56% AM, 60% PM)	-	86.8	54	155	61	124	185
G	**Trucks** (44% AM, 40% PM)	-	79	43	122	41	82	123
	Total Trips (A+E)	**10,964**	**760**	**198**	**958**	**259**	**667**	**927**
	Auto Trips (B+F)	**-**	**508**	**128**	**650**	**177**	**454**	**631**
	Truck Trips (C+G)	**-**	**184**	**62**	**246**	**70**	**164**	**234**
	Truck Percentage	**-**	**-**	**-**	**28%**	**-**	**-**	**27%**

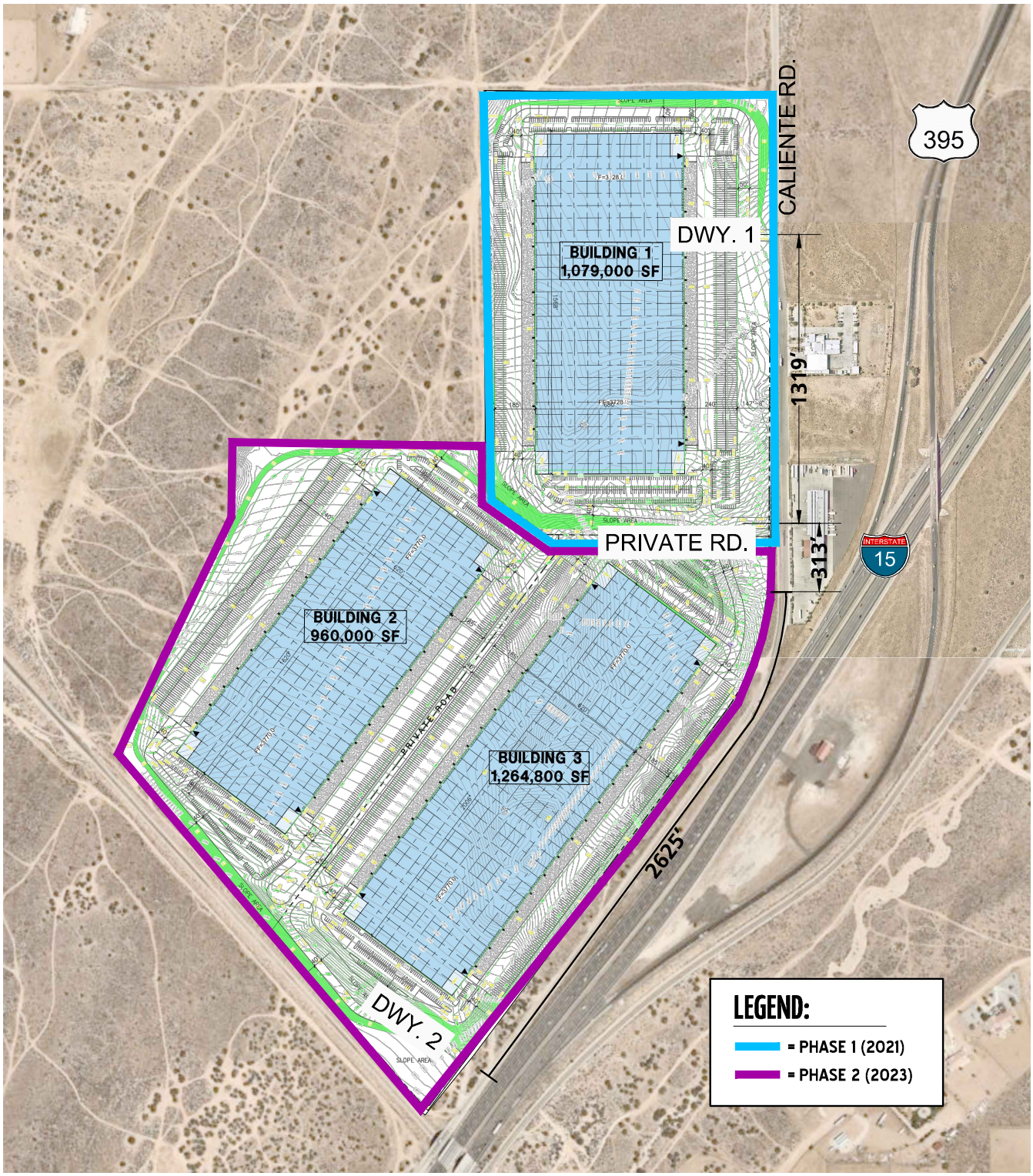
Source: **Institute of Transportation Engineers', Trip Generation Manual, 9th Edition**

As presented, the project consists of a Business Park and High-Cube Warehouse development on a total of approximately 232 acres. It is estimated that the project will generate 10,964 daily trips with 958 trips during the AM Peak Hour, and 927 trips during the PM Peak Hour. Truck trips are estimated based upon the total trips at 246 for the AM and 234 for the PM Peak Hours.

APPENDIX 2:

TRIP GENERATION EXCERPTS FROM 2019 TRAFFIC STUDY

EXHIBIT 1-1: PRELIMINARY SITE PLAN



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12737 - siteplan.dwg

URBAN CROSSROADS

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment, onto the study area roadway network. The proposed Project consists of a total of 3,303,800 square feet of high-cube fulfillment center warehouse within three buildings. The Project is anticipated to be developed within two phases. Phase 1 consists of the development of Building 1 (1,079,000 square feet) and is estimated to be completed and fully occupied by the year 2021. Phase 2 (Project Buildout) consists of the development of Buildings 2 and 3 (total of 3,303,800 square feet) and is estimated to be completed and fully occupied by the year 2023.

At the time this TIA was prepared, Building 1 was proposed to consist of 1,079,000 square feet of high-cube fulfillment center warehouse space, Building 2 was proposed to consist of 960,000 square feet of high-cube fulfillment center warehouse space, and Building 3 was proposed to consist of 1,264,800 square feet of high-cube fulfillment center warehouse space. However, the current site plan proposes 1,055,360 square feet of high-cube fulfillment center warehouse space within Building 1, 1,004,400 square feet of high-cube fulfillment center warehouse space within Building 2, and 1,243,720 square feet of high-cube fulfillment center warehouse space within Building 3. The higher square footages from the original site plan have been evaluated for the purposes of this TIA.

Vehicular and truck traffic access will be provided via the following driveways (see Exhibit 1-1):

- Caliente Road via Driveway 1 – full access for both passenger cars and trucks
- Caliente Road via Private Road – full access for both passenger cars and trucks
- Caliente Road via Driveway 2 – full access for both passenger cars and trucks

Regional access to the Project site is available from the I-15 Freeway via Ranchero Road and Joshua Street interchanges for near-term conditions and via Ranchero Road and Muscatel Street interchanges for Horizon Year conditions.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the proposed project, the trip-generation rates used for this analysis are based upon the Western Riverside Council of Government's High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019). (2) Trip generation rates for the Project are shown in Table 4-1. The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE, for both phase 1 and Project buildout, are shown in Table 4-2.

Table 4-1

Project Trip Generation Rates

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
High-Cube Fulfillment Center Warehouse[3]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars (AM-84.3%; PM-87.2%; Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.3%; PM-6.4%; Daily-7.6%)			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+ Axle Trucks (AM-9.4%; PM-6.4%; Daily-10.2%)			0.008	0.003	0.011	0.003	0.007	0.010	0.217
Passenger Car Equivalent (PCE) Trip Generation Rates									
High-Cube Fulfillment Center Warehouse[3]	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars (AM-84.3%; PM-87.2%; Daily-82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM-6.3%; PM-6.4%; Daily-7.6%) (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+ Axle Trucks (AM-9.4%; PM-6.4%; Daily-10.2%) (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651

[1] Trip Generation Source: High Cube Warehouse Trip Generation Study (WSP, January 29, 2019)

[2] TSF = thousand square feet

[3] Inbound and outbound split Source: ITE's High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016).

Table 4-2

Project Trip Generation Summary

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Summary (Actual Vehicles)									
PHASE 1									
Building 1	1,079.000	TSF							
Passenger Cars:			86	26	112	44	112	156	1,888
Truck Trips:									
2-4 axle:			7	2	9	3	9	12	176
5+ axle:			9	3	12	3	8	11	234
- Truck Trips			16	5	21	6	17	23	410
PHASE 1 TOTAL TRIPS (Actual Vehicles) [2]			**102**	**31**	**133**	**50**	**129**	**179**	**2,298**
PROJECT BUILDOUT									
Buildings 1, 2 and 3	3,303.800	TSF							
Passenger Cars:			262	78	340	133	343	476	5,782
Truck Trips:									
2-4 axle:			20	6	26	10	26	36	536
5+ axle:			28	8	36	9	24	33	718
- Truck Trips			48	14	62	19	50	69	1,254
PROJECT BUILDOUT TOTAL TRIPS (Actual Vehicles) [2]			**310**	**92**	**402**	**152**	**393**	**545**	**7,036**
Project Trip Generation Summary (PCE)									
PHASE 1									
Building 1	1,079.000	TSF							
Passenger Cars:			86	26	112	44	112	156	1,888
Truck Trips:									
2-4 axle:			13	4	17	7	17	24	350
5+ axle:			27	8	35	9	23	32	702
- Truck Trips			40	12	52	16	40	56	1,052
PHASE 1 TOTAL TRIPS (PCE) [2]			**126**	**38**	**164**	**60**	**152**	**212**	**2,940**
PROJECT BUILDOUT									
Buildings 1, 2 and 3	3,303.800	TSF							
Passenger Cars:			262	78	340	133	343	476	5,782
Truck Trips:									
2-4 axle:			41	12	53	20	52	72	1,070
5+ axle:			84	25	109	28	71	99	2,152
- Truck Trips			125	37	162	48	123	171	3,222
PROJECT BUILDOUT TOTAL TRIPS (PCE) [2]			**387**	**115**	**502**	**181**	**466**	**647**	**9,004**

[1] TSF = thousand square feet

[2] TOTAL TRIPS = Passenger Cars + Truck Trips.

APPENDIX 3:

EXISTING (2025) COUNTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	4	3	7	67	2	69	2	7	9	85
07:15 AM	3	2	5	69	3	72	0	8	8	85
07:30 AM	4	1	5	40	2	42	0	13	13	60
07:45 AM	2	3	5	30	2	32	1	7	8	45
Total	13	9	22	206	9	215	3	35	38	275
08:00 AM	3	2	5	9	1	10	3	4	7	22
08:15 AM	3	2	5	15	0	15	3	9	12	32
08:30 AM	1	0	1	14	3	17	0	6	6	24
08:45 AM	2	1	3	17	3	20	1	6	7	30
Total	9	5	14	55	7	62	7	25	32	108
Grand Total	22	14	36	261	16	277	10	60	70	383
Apprch %	61.1	38.9		94.2	5.8		14.3	85.7		
Total %	5.7	3.7	9.4	68.1	4.2	72.3	2.6	15.7	18.3	
Passenger Vehicles	19	14	33	245	12	257	10	50	60	350
% Passenger Vehicles	86.4	100	91.7	93.9	75	92.8	100	83.3	85.7	91.4
Large 2 Axle Vehicles	0	0	0	6	0	6	0	3	3	9
% Large 2 Axle Vehicles	0	0	0	2.3	0	2.2	0	5	4.3	2.3
3 Axle Vehicles	0	0	0	5	1	6	0	1	1	7
% 3 Axle Vehicles	0	0	0	1.9	6.2	2.2	0	1.7	1.4	1.8
4+ Axle Trucks	3	0	3	5	3	8	0	6	6	17
% 4+ Axle Trucks	13.6	0	8.3	1.9	18.8	2.9	0	10	8.6	4.4

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**4**	**3**	**7**	67	2	69	**2**	7	9	**85**
07:15 AM	3	2	5	**69**	**3**	**72**	0	8	8	85
07:30 AM	4	1	5	40	2	42	0	**13**	**13**	60
07:45 AM	2	3	5	30	2	32	1	7	8	45
Total Volume	13	9	22	206	9	215	3	35	38	275
% App. Total	59.1	40.9		95.8	4.2		7.9	92.1		
PHF	.813	.750	.786	.746	.750	.747	.375	.673	.731	.809

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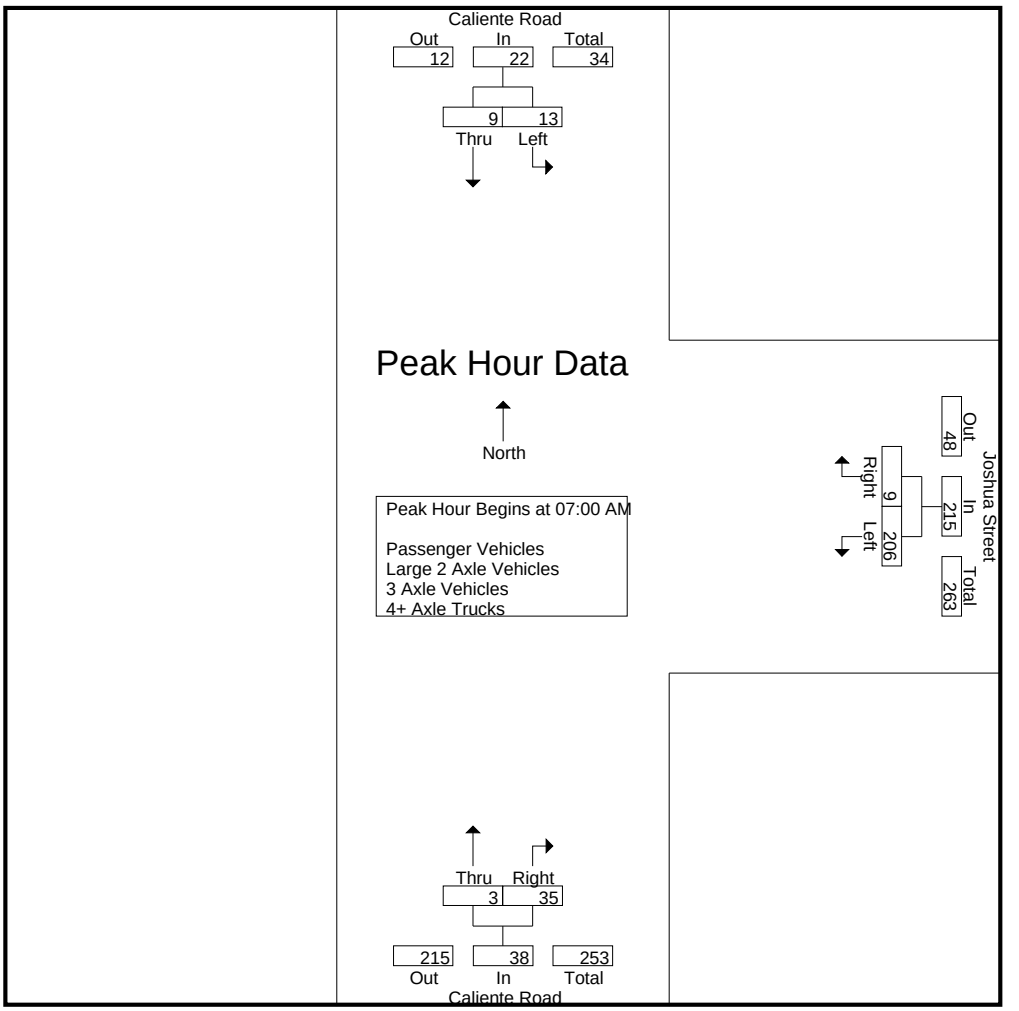
City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:30 AM		
+0 mins.	**4**	**3**	**7**	67	2	69	0	**13**	**13**
+15 mins.	3	2	5	**69**	**3**	**72**	1	7	8
+30 mins.	4	1	5	40	2	42	**3**	4	7
+45 mins.	2	3	5	30	2	32	3	9	12
Total Volume	13	9	22	206	9	215	7	33	40
% App. Total	59.1	40.9		95.8	4.2		17.5	82.5	
PHF	.813	.750	.786	.746	.750	.747	.583	.635	.769

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File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	4	3	7	65	2	67	2	7	9	83
07:15 AM	2	2	4	65	3	68	0	7	7	79
07:30 AM	4	1	5	38	1	39	0	11	11	55
07:45 AM	2	3	5	29	1	30	1	6	7	42
Total	12	9	21	197	7	204	3	31	34	259
08:00 AM	2	2	4	8	0	8	3	4	7	19
08:15 AM	2	2	4	13	0	13	3	5	8	25
08:30 AM	1	0	1	13	3	16	0	5	5	22
08:45 AM	2	1	3	14	2	16	1	5	6	25
Total	7	5	12	48	5	53	7	19	26	91
Grand Total	19	14	33	245	12	257	10	50	60	350
Apprch %	57.6	42.4		95.3	4.7		16.7	83.3		
Total %	5.4	4	9.4	70	3.4	73.4	2.9	14.3	17.1	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**4**	**3**	**7**	**65**	2	67	**2**	7	9	**83**
07:15 AM	2	2	4	65	**3**	**68**	0	7	7	79
07:30 AM	4	1	5	38	1	39	0	**11**	**11**	55
07:45 AM	2	3	5	29	1	30	1	6	7	42
Total Volume	12	9	21	197	7	204	3	31	34	259
% App. Total	57.1	42.9		96.6	3.4		8.8	91.2		
PHF	.750	.750	.750	.758	.583	.750	.375	.705	.773	.780

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City of Hesperia
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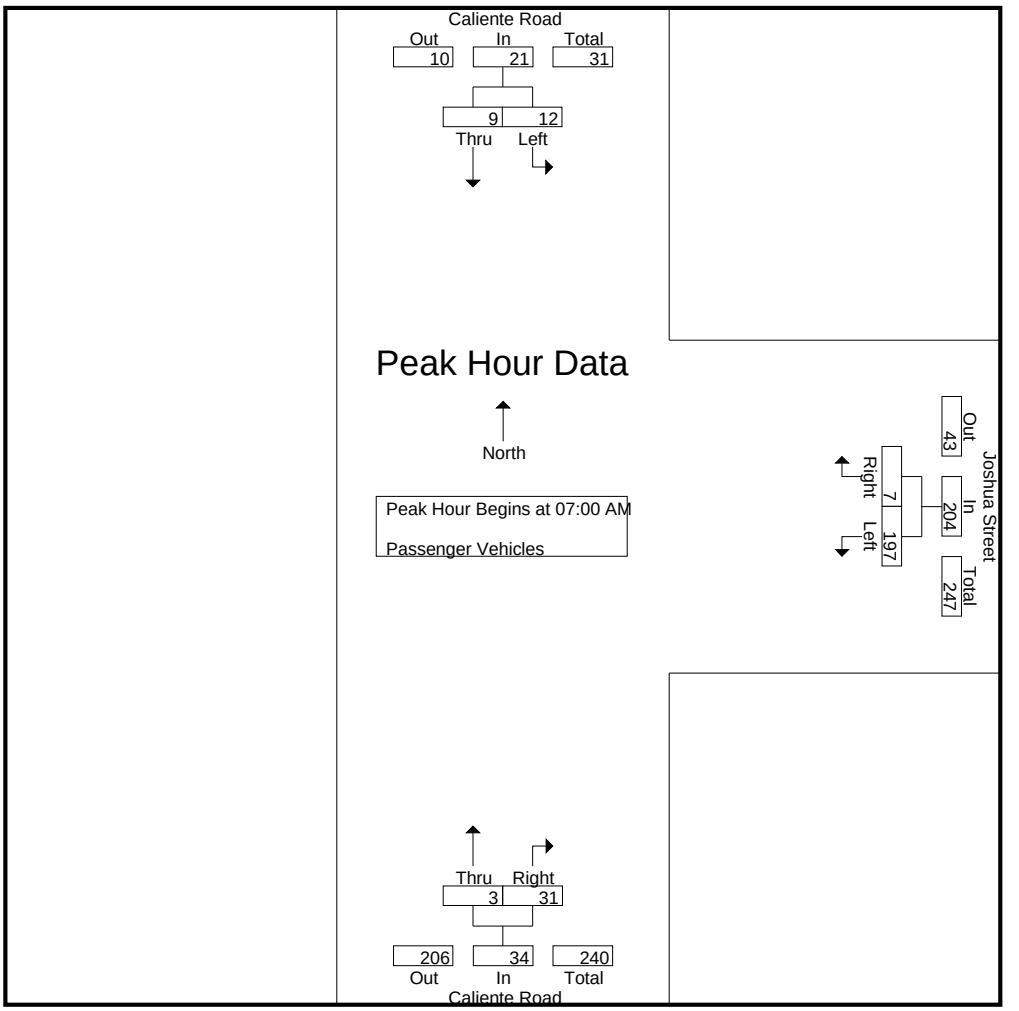
File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**4**	**3**	**7**	**65**	2	67	**2**	7	9
+15 mins.	2	2	4	65	**3**	**68**	0	7	7
+30 mins.	4	1	5	38	1	39	0	**11**	**11**
+45 mins.	2	3	5	29	1	30	1	6	7
Total Volume	12	9	21	197	7	204	3	31	34
% App. Total	57.1	42.9		96.6	3.4		8.8	91.2	
PHF	.750	.750	.750	.758	.583	.750	.375	.705	.773

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	2	0	2	0	1	1	3
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	4	0	4	0	2	2	6
08:00 AM	0	0	0	1	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	2	0	2	0	1	1	3
Grand Total	0	0	0	6	0	6	0	3	3	9
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	66.7	0	66.7	0	33.3	33.3	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	**2**	0	**2**	0	**1**	**1**	**3**
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	4	0	4	0	2	2	6
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.500	.000	.500	.000	.500	.500	.500

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City of Hesperia
N/S: Caliente Road
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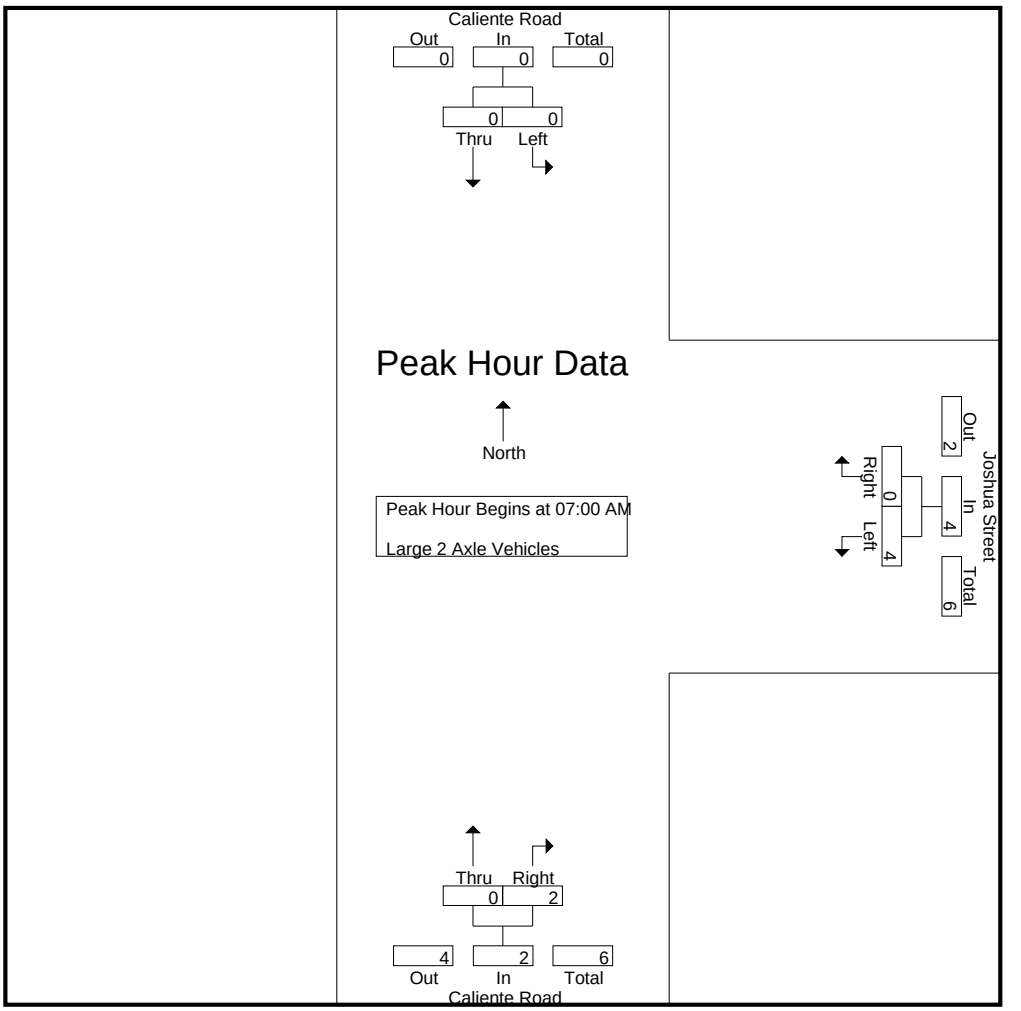
File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	**2**	0	**2**	0	**1**	**1**
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	1	0	1	0	0	0
Total Volume	0	0	0	4	0	4	0	2	2
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.500	.000	.500	.000	.500	.500

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	2	0	2	0	1	1	3
08:30 AM	0	0	0	1	0	1	0	0	0	1
08:45 AM	0	0	0	2	1	3	0	0	0	3
Total	0	0	0	5	1	6	0	1	1	7
Grand Total	0	0	0	5	1	6	0	1	1	7
Apprch %	0	0		83.3	16.7		0	100		
Total %	0	0	0	71.4	14.3	85.7	0	14.3	14.3	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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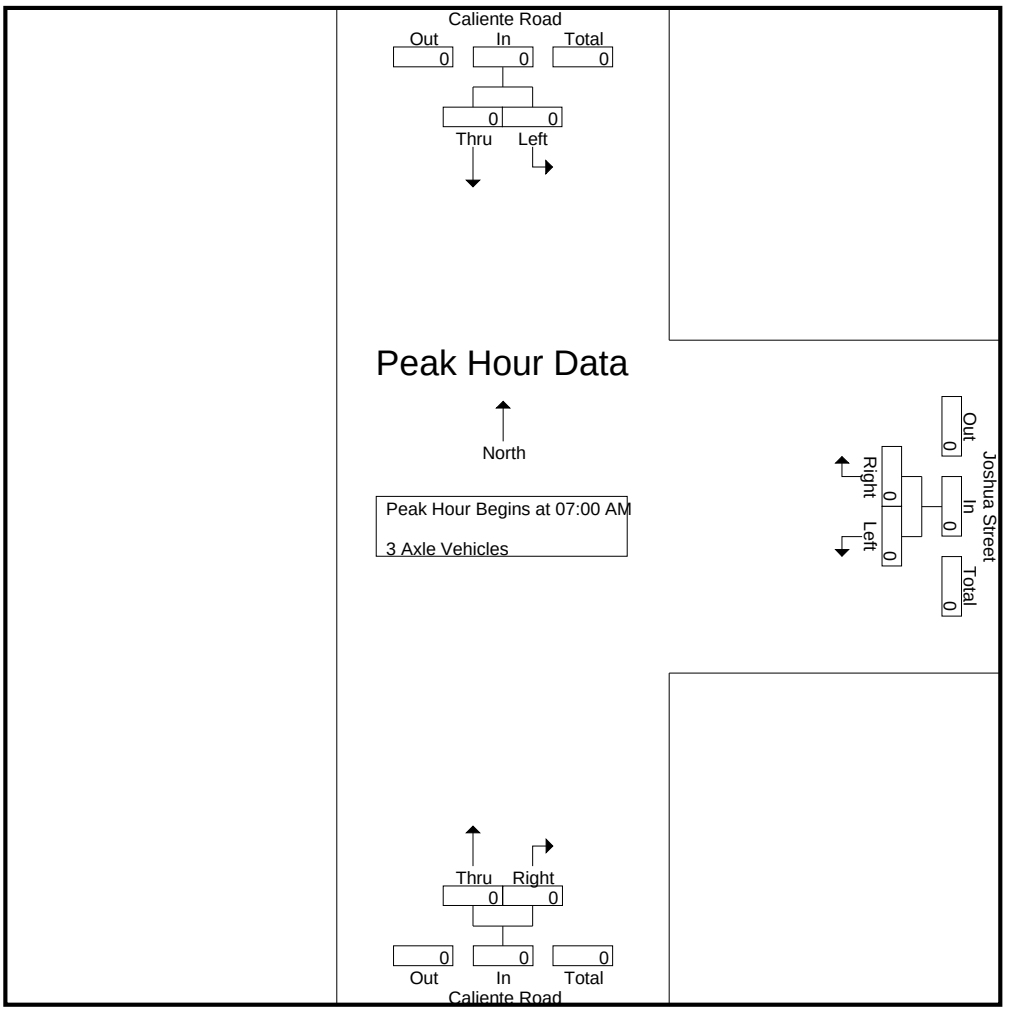

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
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Groups Printed- 4+ Axle Trucks

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	2	0	2	0	0	0	2
07:15 AM	1	0	1	2	0	2	0	0	0	3
07:30 AM	0	0	0	1	1	2	0	1	1	3
07:45 AM	0	0	0	0	1	1	0	1	1	2
Total	1	0	1	5	2	7	0	2	2	10
08:00 AM	1	0	1	0	1	1	0	0	0	2
08:15 AM	1	0	1	0	0	0	0	2	2	3
08:30 AM	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	0	0	0	0	1	1	1
Total	2	0	2	0	1	1	0	4	4	7
Grand Total	3	0	3	5	3	8	0	6	6	17
Apprch %	100	0		62.5	37.5		0	100		
Total %	17.6	0	17.6	29.4	17.6	47.1	0	35.3	35.3	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	**2**	0	**2**	0	0	0	2
07:15 AM	**1**	0	**1**	2	0	2	0	0	0	**3**
07:30 AM	0	0	0	1	**1**	2	0	**1**	**1**	3
07:45 AM	0	0	0	0	1	1	0	1	1	2
Total Volume	1	0	1	5	2	7	0	2	2	10
% App. Total	100	0		71.4	28.6		0	100		
PHF	.250	.000	.250	.625	.500	.875	.000	.500	.500	.833

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City of Hesperia
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Weather: Clear

File Name : 01_HES_Cal_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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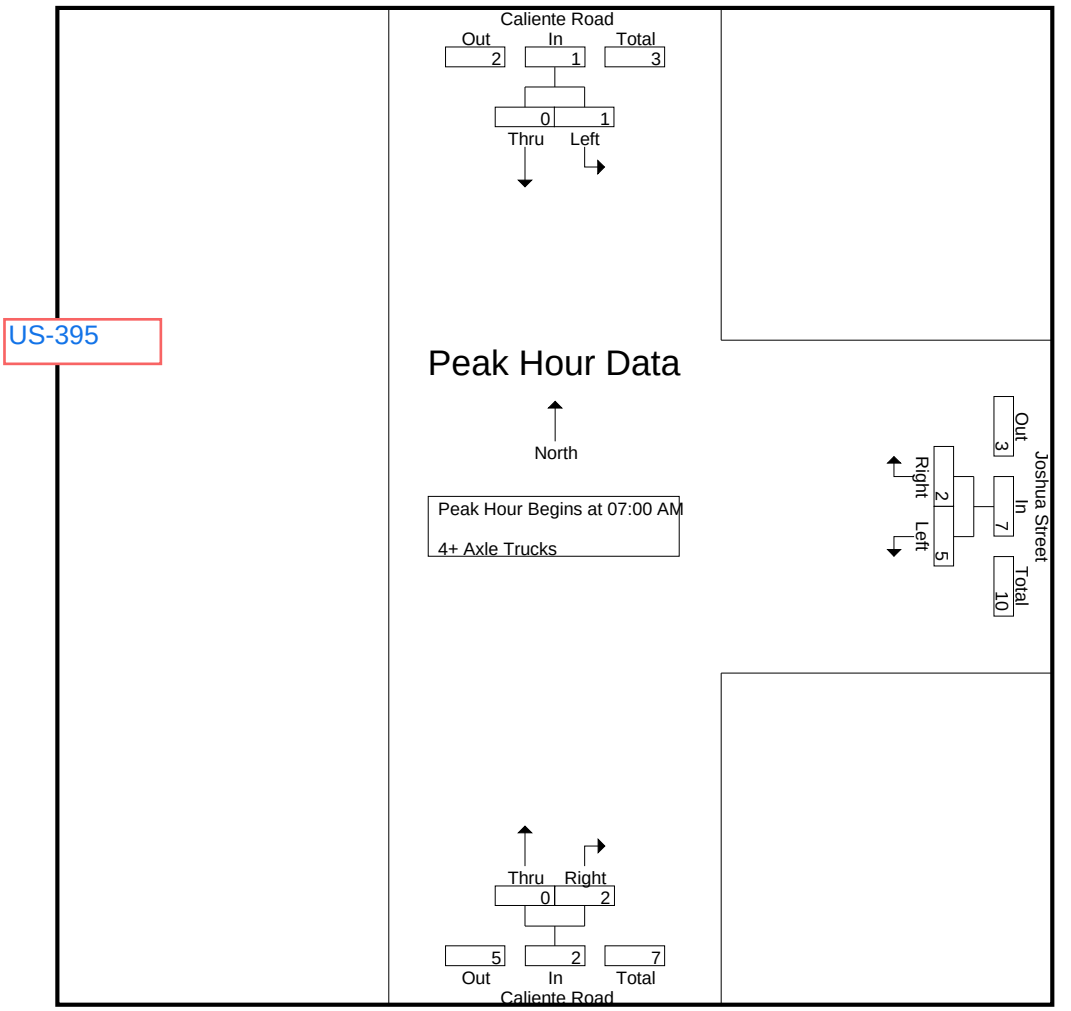

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	**2**	0	**2**	0	0	0
+15 mins.	**1**	0	**1**	2	0	2	0	0	0
+30 mins.	0	0	0	1	**1**	2	0	**1**	**1**
+45 mins.	0	0	0	0	1	1	0	1	1
Total Volume	1	0	1	5	2	7	0	2	2
% App. Total	100	0		71.4	28.6		0	100	
PHF	.250	.000	.250	.625	.500	.875	.000	.500	.500

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City of Hesperia
N/S: Caliente Road
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Weather: Clear

File Name : 01_HES_Cal_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	4	2	6	11	5	16	2	6	8	30
04:15 PM	6	0	6	8	5	13	3	13	16	35
04:30 PM	9	4	13	9	1	10	2	10	12	35
04:45 PM	5	1	6	8	2	10	4	12	16	32
Total	24	7	31	36	13	49	11	41	52	132
05:00 PM	0	1	1	5	6	11	2	13	15	27
05:15 PM	2	1	3	5	8	13	2	8	10	26
05:30 PM	19	0	19	7	5	12	3	33	36	67
05:45 PM	2	1	3	6	4	10	1	13	14	27
Total	23	3	26	23	23	46	8	67	75	147
Grand Total	47	10	57	59	36	95	19	108	127	279
Apprch %	82.5	17.5		62.1	37.9		15	85		
Total %	16.8	3.6	20.4	21.1	12.9	34.1	6.8	38.7	45.5	
Passenger Vehicles	46	10	56	54	35	89	19	105	124	269
% Passenger Vehicles	97.9	100	98.2	91.5	97.2	93.7	100	97.2	97.6	96.4
Large 2 Axle Vehicles	0	0	0	2	0	2	0	2	2	4
% Large 2 Axle Vehicles	0	0	0	3.4	0	2.1	0	1.9	1.6	1.4
3 Axle Vehicles	0	0	0	1	0	1	0	1	1	2
% 3 Axle Vehicles	0	0	0	1.7	0	1.1	0	0.9	0.8	0.7
4+ Axle Trucks	1	0	1	2	1	3	0	0	0	4
% 4+ Axle Trucks	2.1	0	1.8	3.4	2.8	3.2	0	0	0	1.4

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	5	**1**	6	**8**	2	10	**4**	12	16	32
05:00 PM	0	1	1	5	6	11	2	13	15	27
05:15 PM	2	1	3	5	**8**	**13**	2	8	10	26
05:30 PM	**19**	0	**19**	7	5	12	3	**33**	**36**	**67**
Total Volume	26	3	29	25	21	46	11	66	77	152
% App. Total	89.7	10.3		54.3	45.7		14.3	85.7		
PHF	.342	.750	.382	.781	.656	.885	.688	.500	.535	.567

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File Name : 01_HES_Cal_Jos PM
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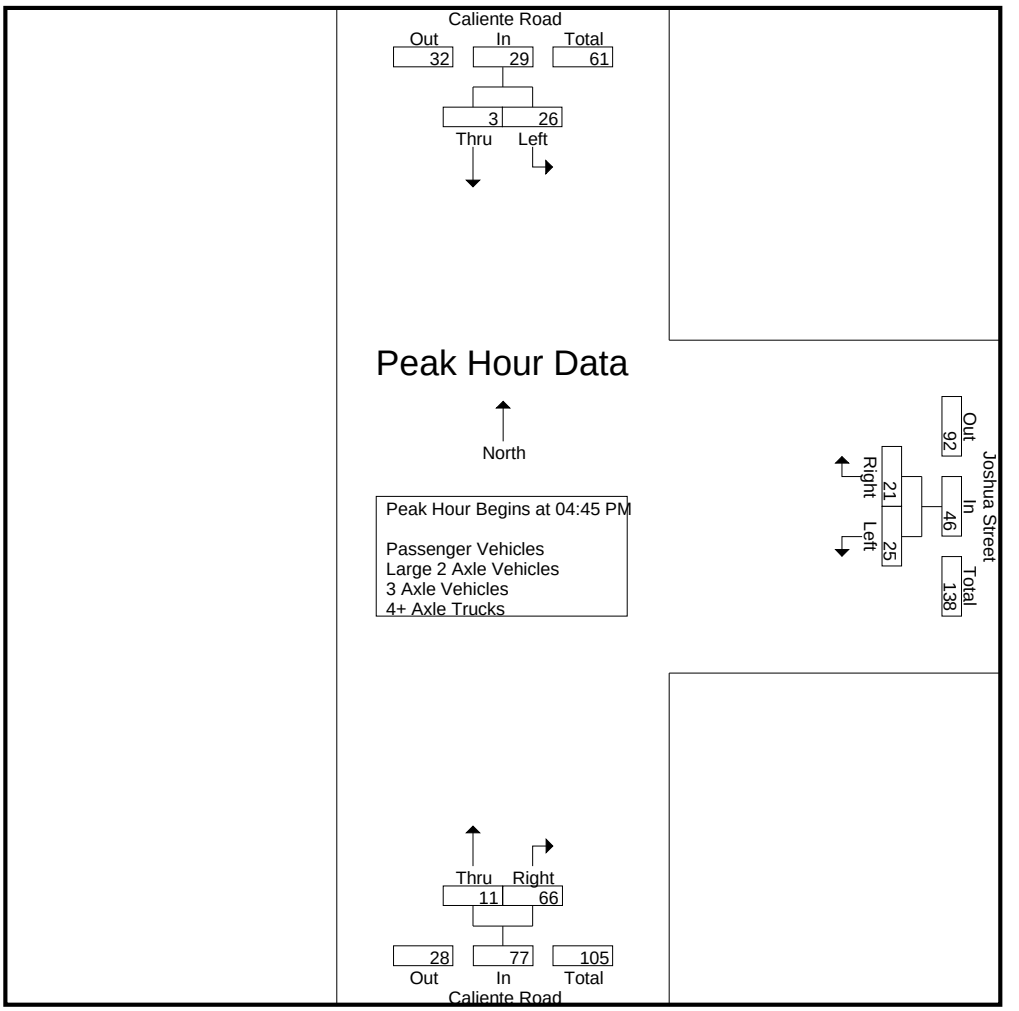

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:45 PM		
+0 mins.	4	2	6	**11**	**5**	**16**	**4**	12	16
+15 mins.	6	0	6	8	5	13	2	13	15
+30 mins.	**9**	**4**	**13**	9	1	10	2	8	10
+45 mins.	5	1	6	8	2	10	3	**33**	**36**
Total Volume	24	7	31	36	13	49	11	66	77
% App. Total	77.4	22.6		73.5	26.5		14.3	85.7	
PHF	.667	.438	.596	.818	.650	.766	.688	.500	.535

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N/S: Caliente Road
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File Name : 01_HES_Cal_Jos PM
Site Code : 05125030
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Groups Printed- Passenger Vehicles

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	4	2	6	9	5	14	2	5	7	27
04:15 PM	6	0	6	7	4	11	3	13	16	33
04:30 PM	9	4	13	8	1	9	2	9	11	33
04:45 PM	5	1	6	8	2	10	4	12	16	32
Total	24	7	31	32	12	44	11	39	50	125
05:00 PM	0	1	1	4	6	10	2	13	15	26
05:15 PM	1	1	2	5	8	13	2	7	9	24
05:30 PM	19	0	19	7	5	12	3	33	36	67
05:45 PM	2	1	3	6	4	10	1	13	14	27
Total	22	3	25	22	23	45	8	66	74	144
Grand Total	46	10	56	54	35	89	19	105	124	269
Apprch %	82.1	17.9		60.7	39.3		15.3	84.7		
Total %	17.1	3.7	20.8	20.1	13	33.1	7.1	39	46.1	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	5	**1**	6	**8**	2	10	**4**	12	16	32
05:00 PM	0	1	1	4	6	10	2	13	15	26
05:15 PM	1	1	2	5	**8**	**13**	2	7	9	24
05:30 PM	**19**	0	**19**	7	5	12	3	**33**	**36**	**67**
Total Volume	25	3	28	24	21	45	11	65	76	149
% App. Total	89.3	10.7		53.3	46.7		14.5	85.5		
PHF	.329	.750	.368	.750	.656	.865	.688	.492	.528	.556

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File Name : 01_HES_Cal_Jos PM
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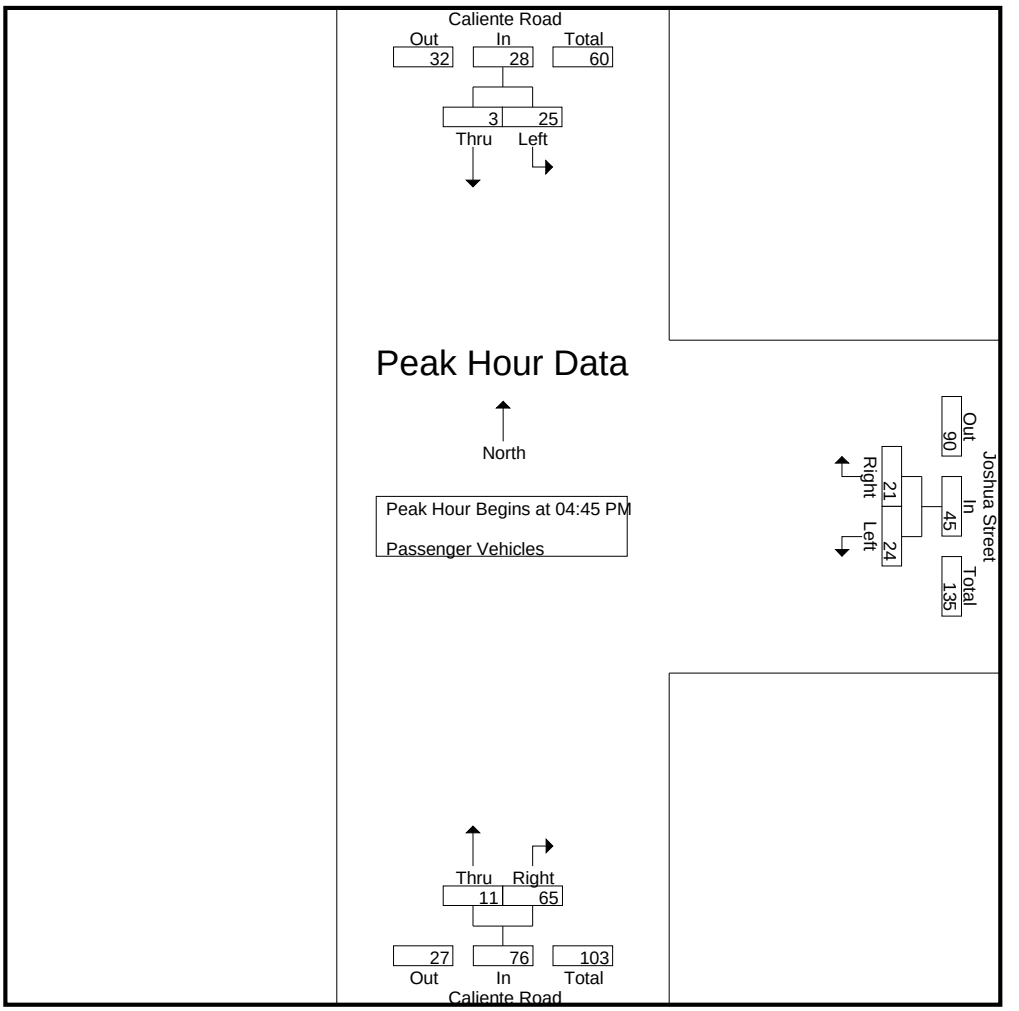

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	5	**1**	6	**8**	2	10	**4**	12	16
+15 mins.	0	1	1	4	6	10	2	13	15
+30 mins.	1	1	2	5	**8**	**13**	2	7	9
+45 mins.	**19**	0	**19**	7	5	12	3	**33**	**36**
Total Volume	25	3	28	24	21	45	11	65	76
% App. Total	89.3	10.7		53.3	46.7		14.5	85.5	
PHF	.329	.750	.368	.750	.656	.865	.688	.492	.528

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 01_HES_Cal_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	1	0	1	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	1	1	2
Grand Total	0	0	0	2	0	2	0	2	2	4
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	50	0	50	0	50	50	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	**1**	0	**1**	0	0	0	**1**
05:15 PM	0	0	0	0	0	0	0	**1**	**1**	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	1	1	2
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250	.500

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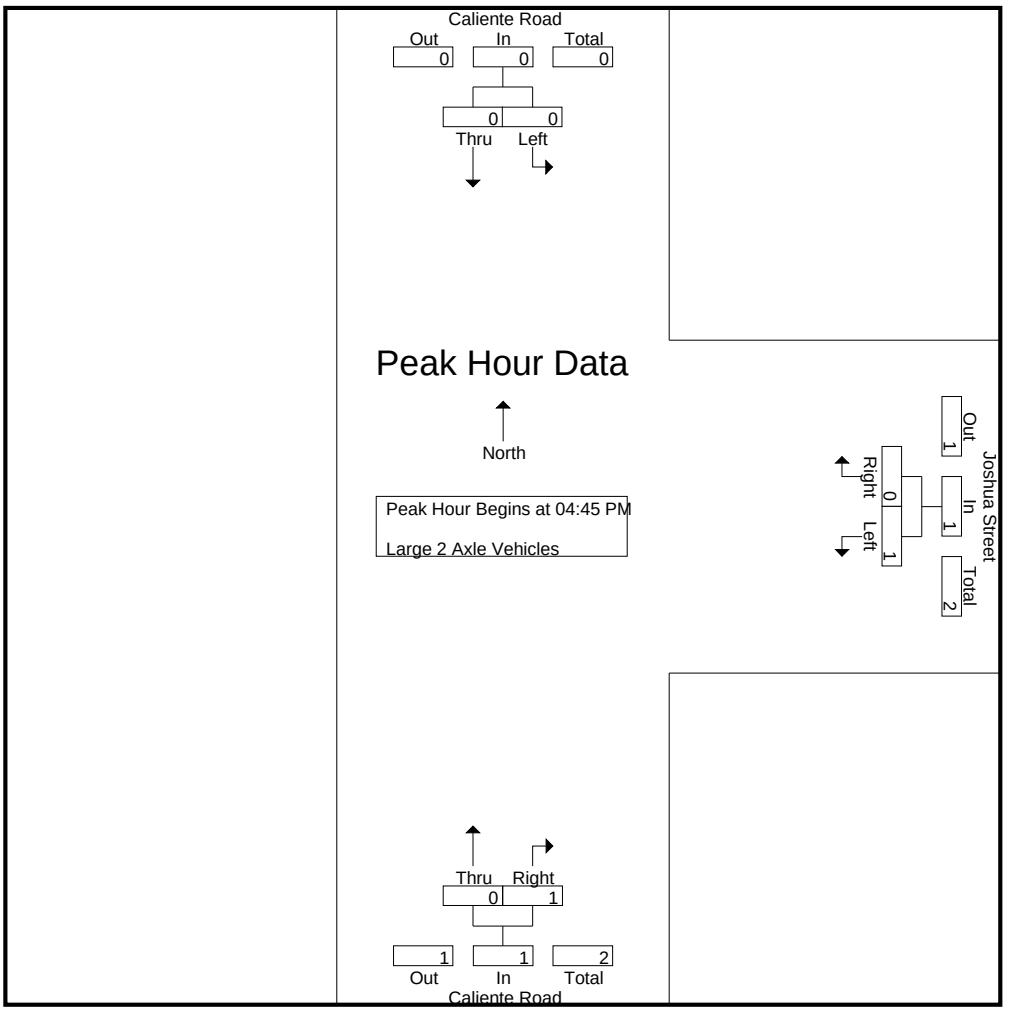

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	**1**	0	**1**	0	0	0
+30 mins.	0	0	0	0	0	0	0	**1**	**1**
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	1	1
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250

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City of Hesperia
N/S: Caliente Road
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Weather: Clear

File Name : 01_HES_Cal_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	0	1	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	1	0	1	1	2
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	50	0	50	0	50	50	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
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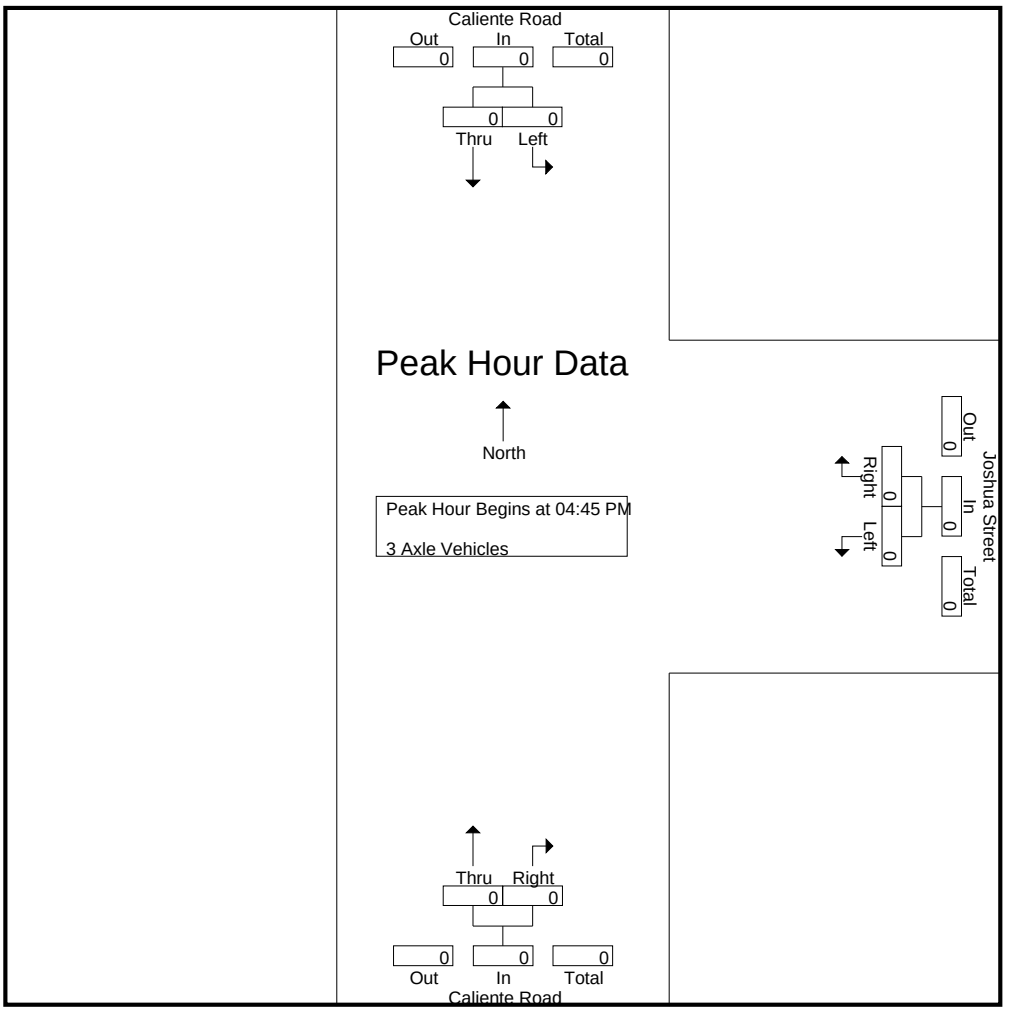

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: Caliente Road
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File Name : 01_HES_Cal_Jos PM
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Groups Printed- 4+ Axle Trucks

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	0	1	0	0	0	1
04:15 PM	0	0	0	0	1	1	0	0	0	1
04:30 PM	0	0	0	1	0	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	1	3	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
Grand Total	1	0	1	2	1	3	0	0	0	4
Apprch %	100	0		66.7	33.3		0	0		
Total %	25	0	25	50	25	75	0	0	0	

	Caliente Road Southbound			Joshua Street Westbound			Caliente Road Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	**1**	0	**1**	0	0	0	0	0	0	**1**
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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City of Hesperia
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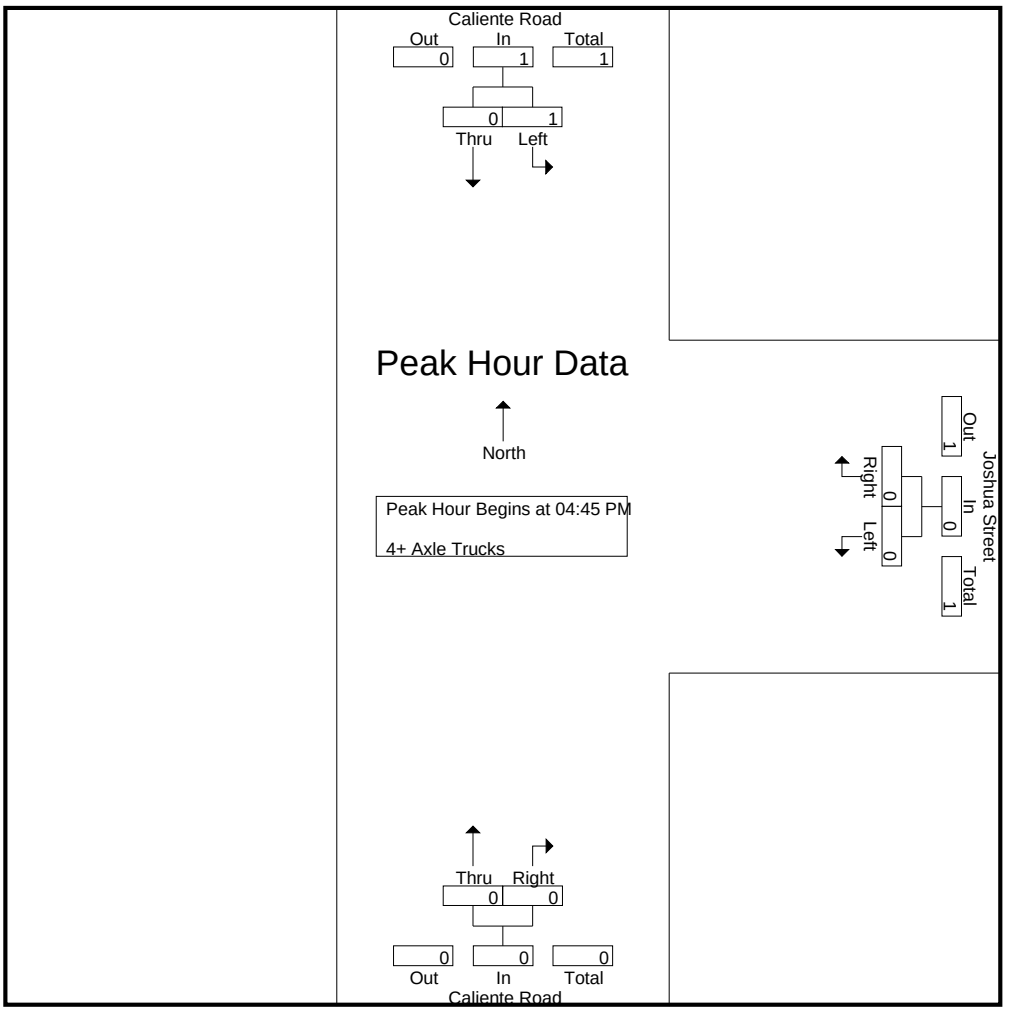

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000

Location: Hesperia
N/S: Caliente Road
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg Caliente Road	East Leg Joshua Street	South Leg Caliente Road	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Caliente Road	East Leg Joshua Street	South Leg Caliente Road	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: Caliente Road
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound Caliente Road			Westbound Joshua Street			Northbound Caliente Road			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Caliente Road			Westbound Joshua Street			Northbound Caliente Road			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	31	167	47	3	245	16	31	26	10	73	1	138	14	5	153	6	6	3	0	15	18	486	504
07:15 AM	29	168	73	18	270	8	16	28	10	52	1	123	15	5	139	6	7	4	2	17	35	478	513
07:30 AM	14	115	40	7	169	19	12	34	11	65	2	144	7	1	153	10	8	3	1	21	20	408	428
07:45 AM	17	142	24	0	183	16	8	45	18	69	1	122	9	1	132	6	3	2	1	11	20	395	415
Total	91	592	184	28	867	59	67	133	49	259	5	527	45	12	577	28	24	12	4	64	93	1767	1860
08:00 AM	11	141	12	4	164	15	3	29	9	47	1	112	17	4	130	0	8	0	0	8	17	349	366
08:15 AM	12	139	19	8	170	15	2	29	8	46	0	108	3	0	111	5	4	3	1	12	17	339	356
08:30 AM	22	143	10	1	175	13	6	36	15	55	2	126	10	2	138	4	2	1	0	7	18	375	393
08:45 AM	20	167	14	3	201	14	9	25	7	48	2	113	20	4	135	1	7	1	0	9	14	393	407
Total	65	590	55	16	710	57	20	119	39	196	5	459	50	10	514	10	21	5	1	36	66	1456	1522
Grand Total	156	1182	239	44	1577	116	87	252	88	455	10	986	95	22	1091	38	45	17	5	100	159	3223	3382
Apprch %	9.9	75	15.2			25.5	19.1	55.4			0.9	90.4	8.7			38	45	17					
Total %	4.8	36.7	7.4		48.9	3.6	2.7	7.8		14.1	0.3	30.6	2.9		33.9	1.2	1.4	0.5		3.1	4.7	95.3	
Passenger Vehicles	115	985	227		1368	93	78	180		415	5	821	75		919	32	42	11		89	0	0	2791
% Passenger Vehicles	73.7	83.3	95	93.2	84.4	80.2	89.7	71.4	72.7	76.4	50	83.3	78.9	81.8	82.6	84.2	93.3	64.7	80	84.8	0	0	82.5
Large 2 Axle Vehicles	3	18	4		26	0	2	10		17	1	20	4		25	2	1	0		3	0	0	71
% Large 2 Axle Vehicles	1.9	1.5	1.7	2.3	1.6	0	2.3	4	5.7	3.1	10	2	4.2	0	2.2	5.3	2.2	0	0	2.9	0	0	2.1
3 Axle Vehicles	3	19	3		26	3	5	9		20	0	9	2		11	0	0	1		1	0	0	58
% 3 Axle Vehicles	1.9	1.6	1.3	2.3	1.6	2.6	5.7	3.6	3.4	3.7	0	0.9	2.1	0	1	0	0	5.9	0	1	0	0	1.7
4+ Axle Trucks	35	160	5		201	20	2	53		91	4	136	14		158	4	2	5		12	0	0	462
% 4+ Axle Trucks	22.4	13.5	2.1	2.3	12.4	17.2	2.3	21	18.2	16.8	40	13.8	14.7	18.2	14.2	10.5	4.4	29.4	20	11.4	0	0	13.7

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**31**	167	47	245	16	**31**	26	**73**	1	138	14	**153**	6	6	3	15	**486**
07:15 AM	29	**168**	**73**	**270**	8	16	28	52	1	123	**15**	139	6	7	**4**	17	478
07:30 AM	14	115	40	169	**19**	12	34	65	**2**	**144**	7	153	**10**	**8**	3	**21**	408
07:45 AM	17	142	24	183	16	8	**45**	69	1	122	9	132	6	3	2	11	395
Total Volume	91	592	184	867	59	67	133	259	5	527	45	577	28	24	12	64	1767
% App. Total	10.5	68.3	21.2		22.8	25.9	51.4		0.9	91.3	7.8		43.8	37.5	18.8		
PHF	.734	.881	.630	.803	.776	.540	.739	.887	.625	.915	.750	.943	.700	.750	.750	.762	.909

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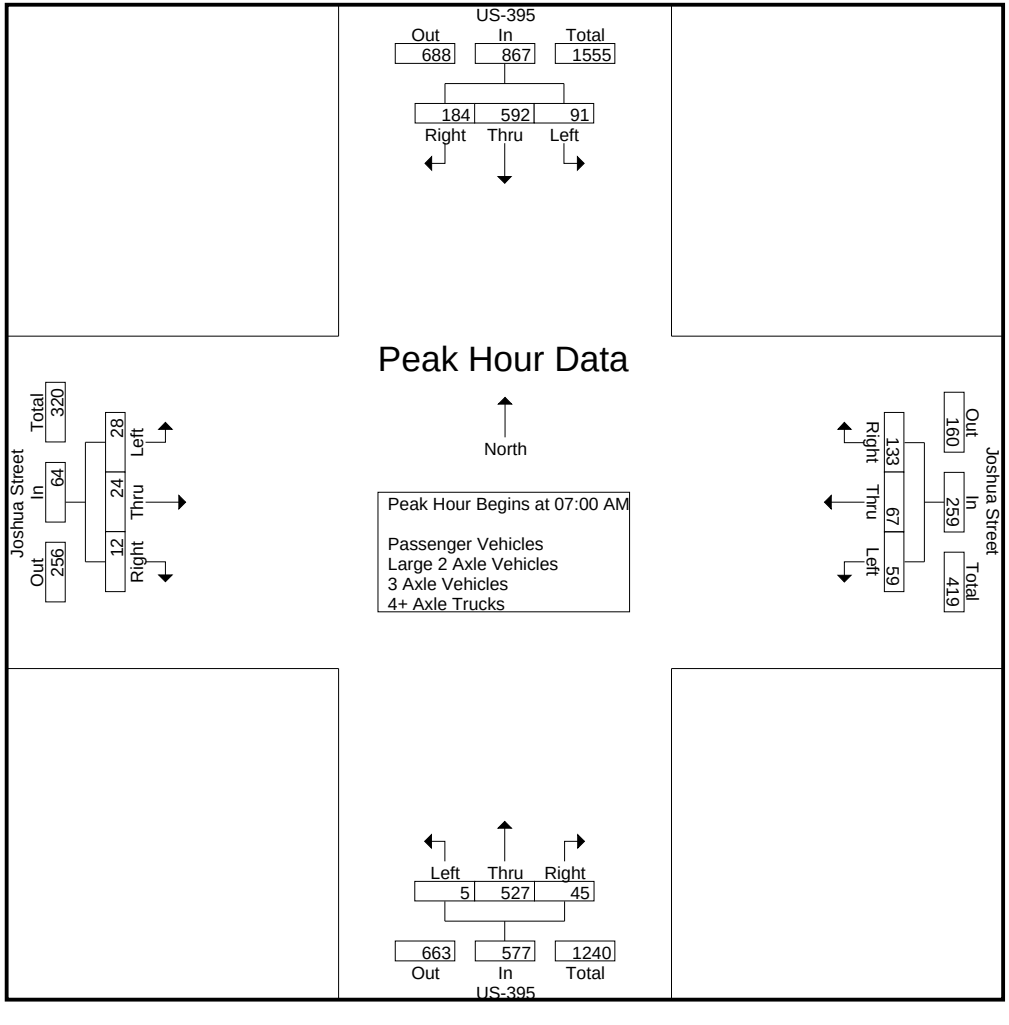
City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
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File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**31**	167	47	245	16	**31**	26	**73**	1	138	14	**153**	6	6	3	15	
+15 mins.	29	**168**	**73**	**270**	8	16	28	52	1	123	**15**	139	6	7	**4**	17	
+30 mins.	14	115	40	169	**19**	12	34	65	**2**	**144**	7	153	**10**	**8**	3	**21**	
+45 mins.	17	142	24	183	16	8	**45**	69	1	122	9	132	6	3	2	11	
Total Volume	91	592	184	867	59	67	133	259	5	527	45	577	28	24	12	64	
% App. Total	10.5	68.3	21.2		22.8	25.9	51.4		0.9	91.3	7.8		43.8	37.5	18.8		
PHF	.734	.881	.630	.803	.776	.540	.739	.887	.625	.915	.750	.943	.700	.750	.750	.762	

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File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	19	150	45	2	214	16	30	16	6	62	0	110	9	3	119	6	6	2	0	14	11	409	420
07:15 AM	24	134	68	17	226	6	16	23	8	45	1	114	15	5	130	5	6	4	2	15	32	416	448
07:30 AM	10	91	39	7	140	14	11	29	10	54	1	115	7	1	123	8	8	3	1	19	19	336	355
07:45 AM	10	117	24	0	151	13	7	33	12	53	0	102	8	1	110	5	3	2	1	10	14	324	338
Total	63	492	176	26	731	49	64	101	36	214	2	441	39	10	482	24	23	11	4	58	76	1485	1561
08:00 AM	10	120	11	4	141	13	2	22	7	37	0	96	14	4	110	0	7	0	0	7	15	295	310
08:15 AM	10	121	17	7	148	12	1	24	8	37	0	90	2	0	92	3	3	0	0	6	15	283	298
08:30 AM	19	114	10	1	143	8	5	20	9	33	2	105	8	2	115	4	2	0	0	6	12	297	309
08:45 AM	13	138	13	3	164	11	6	13	4	30	1	89	12	2	102	1	7	0	0	8	9	304	313
Total	52	493	51	15	596	44	14	79	28	137	3	380	36	8	419	8	19	0	0	27	51	1179	1230
Grand Total	115	985	227	41	1327	93	78	180	64	351	5	821	75	18	901	32	42	11	4	85	127	2664	2791
Apprch %	8.7	74.2	17.1			26.5	22.2	51.3			0.6	91.1	8.3			37.6	49.4	12.9					
Total %	4.3	37	8.5		49.8	3.5	2.9	6.8		13.2	0.2	30.8	2.8		33.8	1.2	1.6	0.4		3.2	4.6	95.4	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	19	**150**	45	214	**16**	**30**	16	**62**	0	110	9	119	6	6	2	14	409
07:15 AM	**24**	134	**68**	**226**	6	16	23	45	**1**	114	**15**	**130**	5	6	**4**	15	**416**
07:30 AM	10	91	39	140	14	11	29	54	1	**115**	7	123	**8**	**8**	3	**19**	336
07:45 AM	10	117	24	151	13	7	**33**	53	0	102	8	110	5	3	2	10	324
Total Volume	63	492	176	731	49	64	101	214	2	441	39	482	24	23	11	58	1485
% App. Total	8.6	67.3	24.1		22.9	29.9	47.2		0.4	91.5	8.1		41.4	39.7	19		
PHF	.656	.820	.647	.809	.766	.533	.765	.863	.500	.959	.650	.927	.750	.719	.688	.763	.892

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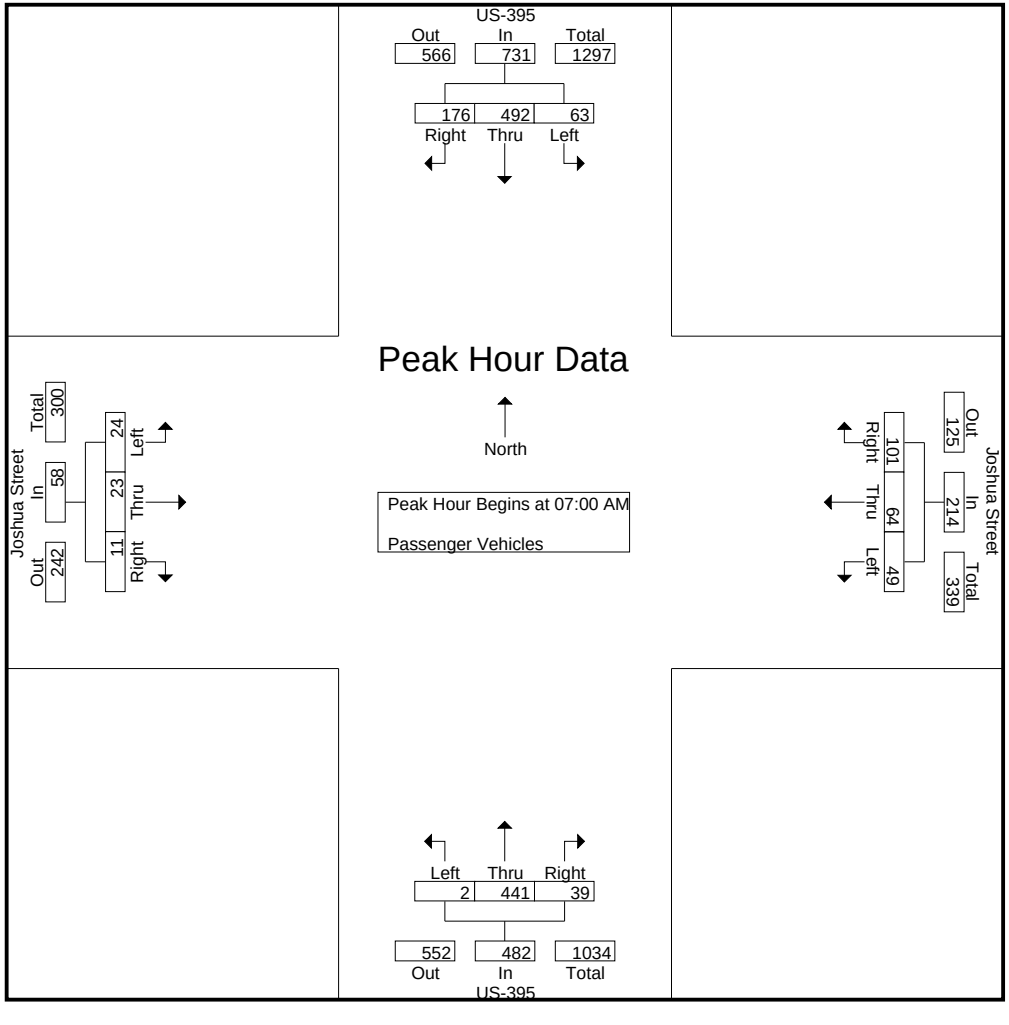
City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
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File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	19	**150**	45	214	**16**	**30**	16	**62**	0	110	9	119	6	6	2	14	
+15 mins.	**24**	134	**68**	**226**	6	16	23	45	**1**	114	**15**	**130**	5	6	**4**	15	
+30 mins.	10	91	39	140	14	11	29	54	1	**115**	7	123	**8**	**8**	3	**19**	
+45 mins.	10	117	24	151	13	7	**33**	53	0	102	8	110	5	3	2	10	
Total Volume	63	492	176	731	49	64	101	214	2	441	39	482	24	23	11	58	
% App. Total	8.6	67.3	24.1		22.9	29.9	47.2		0.4	91.5	8.1		41.4	39.7	19		
PHF	.656	.820	.647	.809	.766	.533	.765	.863	.500	.959	.650	.927	.750	.719	.688	.763	

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File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	0	1	0	0	2	1	2	0	3	0	0	3	0	0	0	0	0	1	6	7
07:15 AM	0	1	3	1	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	5	6
07:30 AM	0	4	0	0	4	0	0	0	0	0	1	5	0	0	6	1	0	0	0	1	0	11	11
07:45 AM	1	3	0	0	4	0	1	2	1	3	0	2	0	0	2	0	0	0	0	0	1	9	10
Total	2	8	3	1	13	0	1	4	2	5	1	10	0	0	11	1	1	0	0	2	3	31	34
08:00 AM	0	4	1	0	5	0	0	1	1	1	0	2	2	0	4	0	0	0	0	0	1	10	11
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	5	5
08:30 AM	1	3	0	0	4	0	0	3	1	3	0	1	1	0	2	0	0	0	0	0	1	9	10
08:45 AM	0	2	0	0	2	0	1	2	1	3	0	4	1	0	5	0	0	0	0	0	1	10	11
Total	1	10	1	0	12	0	1	6	3	7	0	10	4	0	14	1	0	0	0	1	3	34	37
Grand Total	3	18	4	1	25	0	2	10	5	12	1	20	4	0	25	2	1	0	0	3	6	65	71
Apprch %	12	72	16			0	16.7	83.3			4	80	16			66.7	33.3	0					
Total %	4.6	27.7	6.2		38.5	0	3.1	15.4		18.5	1.5	30.8	6.2		38.5	3.1	1.5	0		4.6	8.5	91.5	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	1	0	0	**2**	2	0	3	0	3	0	0	0	0	6
07:15 AM	0	1	**3**	**4**	0	0	0	0	0	0	0	0	0	**1**	0	**1**	5
07:30 AM	0	**4**	0	4	0	0	0	0	**1**	**5**	0	**6**	**1**	0	0	1	**11**
07:45 AM	1	3	0	4	0	**1**	2	**3**	0	2	0	2	0	0	0	0	9
Total Volume	2	8	3	13	0	1	4	5	1	10	0	11	1	1	0	2	31
% App. Total	15.4	61.5	23.1		0	20	80		9.1	90.9	0		50	50	0		
PHF	.500	.500	.250	.813	.000	.250	.500	.417	.250	.500	.000	.458	.250	.250	.000	.500	.705

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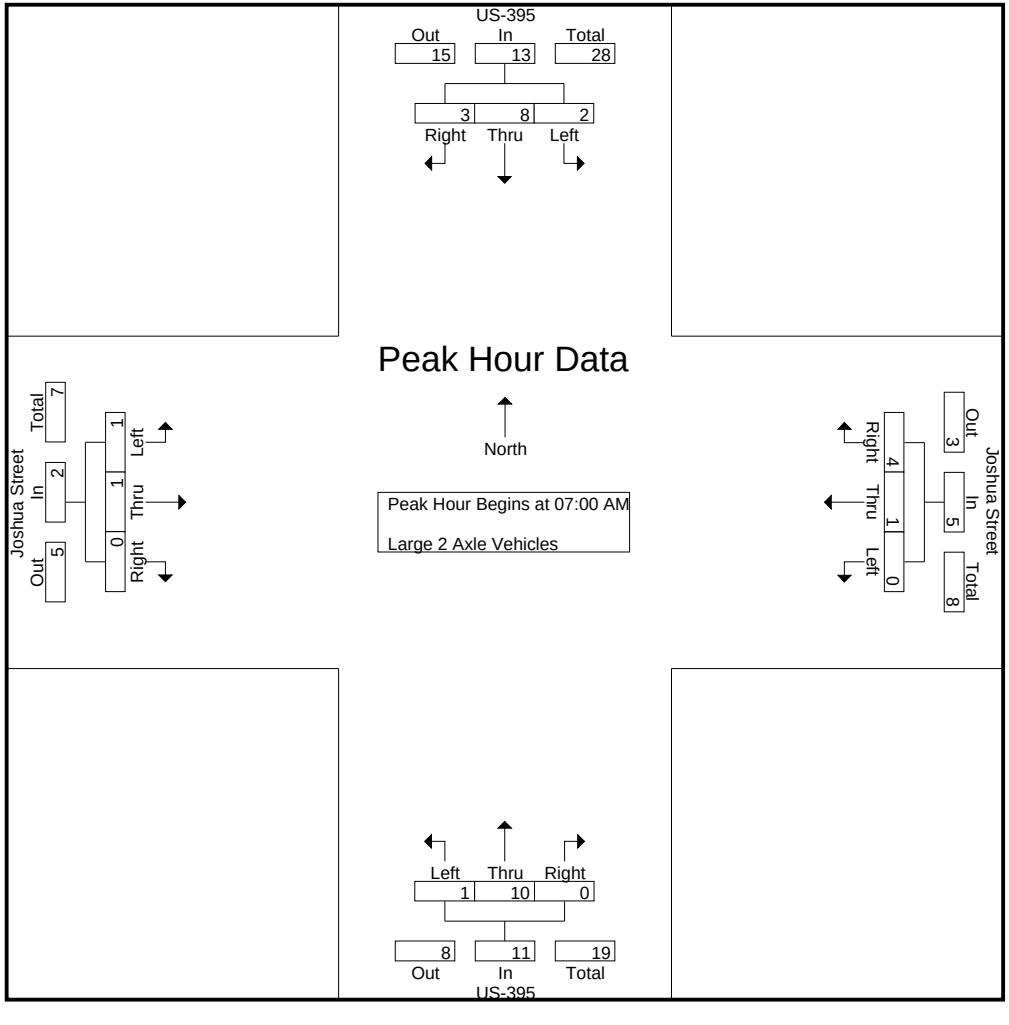
File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**1**	0	0	1	0	0	**2**	2	0	3	0	3	0	0	0	0	
+15 mins.	0	1	**3**	**4**	0	0	0	0	0	0	0	0	0	**1**	0	**1**	
+30 mins.	0	**4**	0	4	0	0	0	0	**1**	**5**	0	**6**	**1**	0	0	1	
+45 mins.	1	3	0	4	0	**1**	2	**3**	0	2	0	2	0	0	0	0	
Total Volume	2	8	3	13	0	1	4	5	1	10	0	11	1	1	0	2	
% App. Total	15.4	61.5	23.1		0	20	80		9.1	90.9	0		50	50	0		
PHF	.500	.500	.250	.813	.000	.250	.500	.417	.250	.500	.000	.458	.250	.250	.000	.500	

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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	1	0	0	3	0	0	2	1	2	0	1	0	0	1	0	0	0	0	0	1	6	7
07:15 AM	0	3	0	0	3	1	0	3	1	4	0	0	0	0	0	0	0	0	0	0	1	7	8
07:30 AM	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	5	5
07:45 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6	6
Total	2	10	0	0	12	2	0	5	2	7	0	5	0	0	5	0	0	0	0	0	2	24	26
08:00 AM	0	2	0	0	2	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	0	5	5
08:15 AM	0	1	2	1	3	0	1	0	0	1	0	2	1	0	3	0	0	1	0	1	1	8	9
08:30 AM	0	2	0	0	2	1	1	3	1	5	0	0	0	0	0	0	0	0	0	0	1	7	8
08:45 AM	1	4	1	0	6	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	0	10	10
Total	1	9	3	1	13	1	5	4	1	10	0	4	2	0	6	0	0	1	0	1	2	30	32
Grand Total	3	19	3	1	25	3	5	9	3	17	0	9	2	0	11	0	0	1	0	1	4	54	58
Apprch %	12	76	12			17.6	29.4	52.9			0	81.8	18.2			0	0	100					
Total %	5.6	35.2	5.6		46.3	5.6	9.3	16.7		31.5	0	16.7	3.7		20.4	0	0	1.9		1.9	6.9	93.1	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**2**	1	0	3	0	0	2	2	0	1	0	1	0	0	0	0	6
07:15 AM	0	3	0	3	**1**	0	**3**	**4**	0	0	0	0	0	0	0	0	**7**
07:30 AM	0	2	0	2	1	0	0	1	0	**2**	0	**2**	0	0	0	0	5
07:45 AM	0	**4**	0	**4**	0	0	0	0	0	2	0	2	0	0	0	0	6
Total Volume	2	10	0	12	2	0	5	7	0	5	0	5	0	0	0	0	24
% App. Total	16.7	83.3	0		28.6	0	71.4		0	100	0		0	0	0		
PHF	.250	.625	.000	.750	.500	.000	.417	.438	.000	.625	.000	.625	.000	.000	.000	.000	.857

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City of Hesperia
N/S: Caliente Road
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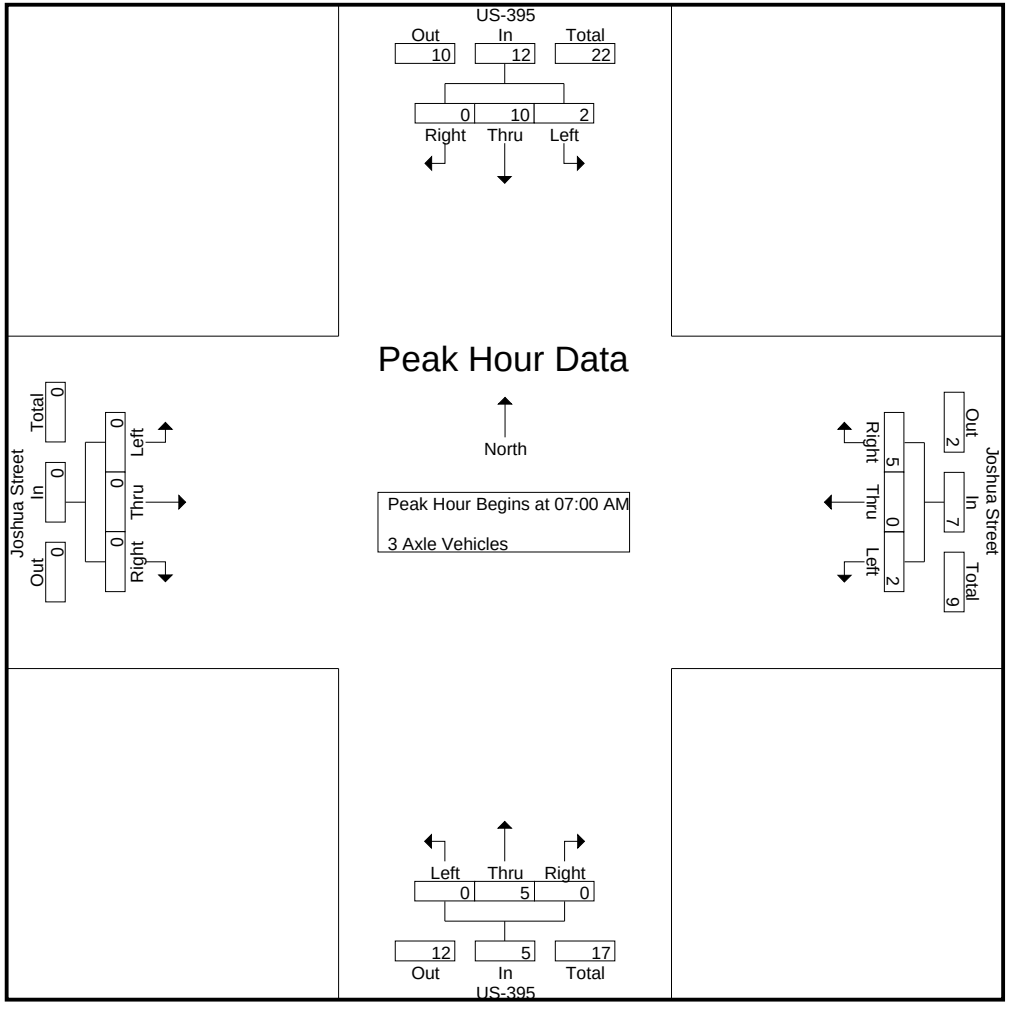
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
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Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**2**	1	0	3	0	0	2	2	0	1	0	1	0	0	0	0	
+15 mins.	0	3	0	3	**1**	0	**3**	**4**	0	0	0	0	0	0	0	0	
+30 mins.	0	2	0	2	1	0	0	1	0	**2**	0	**2**	0	0	0	0	
+45 mins.	0	**4**	0	**4**	0	0	0	0	0	2	0	2	0	0	0	0	
Total Volume	2	10	0	12	2	0	5	7	0	5	0	5	0	0	0	0	
% App. Total	16.7	83.3	0		28.6	0	71.4		0	100	0		0	0	0		
PHF	.250	.625	.000	.750	.500	.000	.417	.438	.000	.625	.000	.625	.000	.000	.000	.000	

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File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	9	16	2	1	27	0	1	6	2	7	1	24	5	2	30	0	0	1	0	1	5	65	70
07:15 AM	5	30	2	0	37	1	0	2	1	3	0	9	0	0	9	1	0	0	0	1	1	50	51
07:30 AM	4	18	1	0	23	4	1	5	1	10	0	22	0	0	22	1	0	0	0	1	1	56	57
07:45 AM	6	18	0	0	24	3	0	10	5	13	1	16	1	0	18	1	0	0	0	1	5	56	61
Total	24	82	5	1	111	8	2	23	9	33	2	71	6	2	79	3	0	1	0	4	12	227	239
08:00 AM	1	15	0	0	16	2	0	5	1	7	1	14	0	0	15	0	1	0	0	1	1	39	40
08:15 AM	2	16	0	0	18	3	0	5	0	8	0	13	0	0	13	1	1	2	1	4	1	43	44
08:30 AM	2	24	0	0	26	4	0	10	4	14	0	20	1	0	21	0	0	1	0	1	4	62	66
08:45 AM	6	23	0	0	29	3	0	10	2	13	1	18	7	2	26	0	0	1	0	1	4	69	73
Total	11	78	0	0	89	12	0	30	7	42	2	65	8	2	75	1	2	4	1	7	10	213	223
Grand Total	35	160	5	1	200	20	2	53	16	75	4	136	14	4	154	4	2	5	1	11	22	440	462
Apprch %	17.5	80	2.5			26.7	2.7	70.7			2.6	88.3	9.1			36.4	18.2	45.5					
Total %	8	36.4	1.1		45.5	4.5	0.5	12		17	0.9	30.9	3.2		35	0.9	0.5	1.1		2.5	4.8	95.2	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**9**	16	**2**	27	0	**1**	6	7	**1**	**24**	**5**	**30**	0	0	**1**	**1**	**65**
07:15 AM	5	**30**	2	**37**	1	0	2	3	0	9	0	9	**1**	0	0	1	50
07:30 AM	4	18	1	23	**4**	1	5	10	0	22	0	22	1	0	0	1	56
07:45 AM	6	18	0	24	3	0	**10**	**13**	1	16	1	18	1	0	0	1	56
Total Volume	24	82	5	111	8	2	23	33	2	71	6	79	3	0	1	4	227
% App. Total	21.6	73.9	4.5		24.2	6.1	69.7		2.5	89.9	7.6		75	0	25		
PHF	.667	.683	.625	.750	.500	.500	.575	.635	.500	.740	.300	.658	.750	.000	.250	1.00	.873

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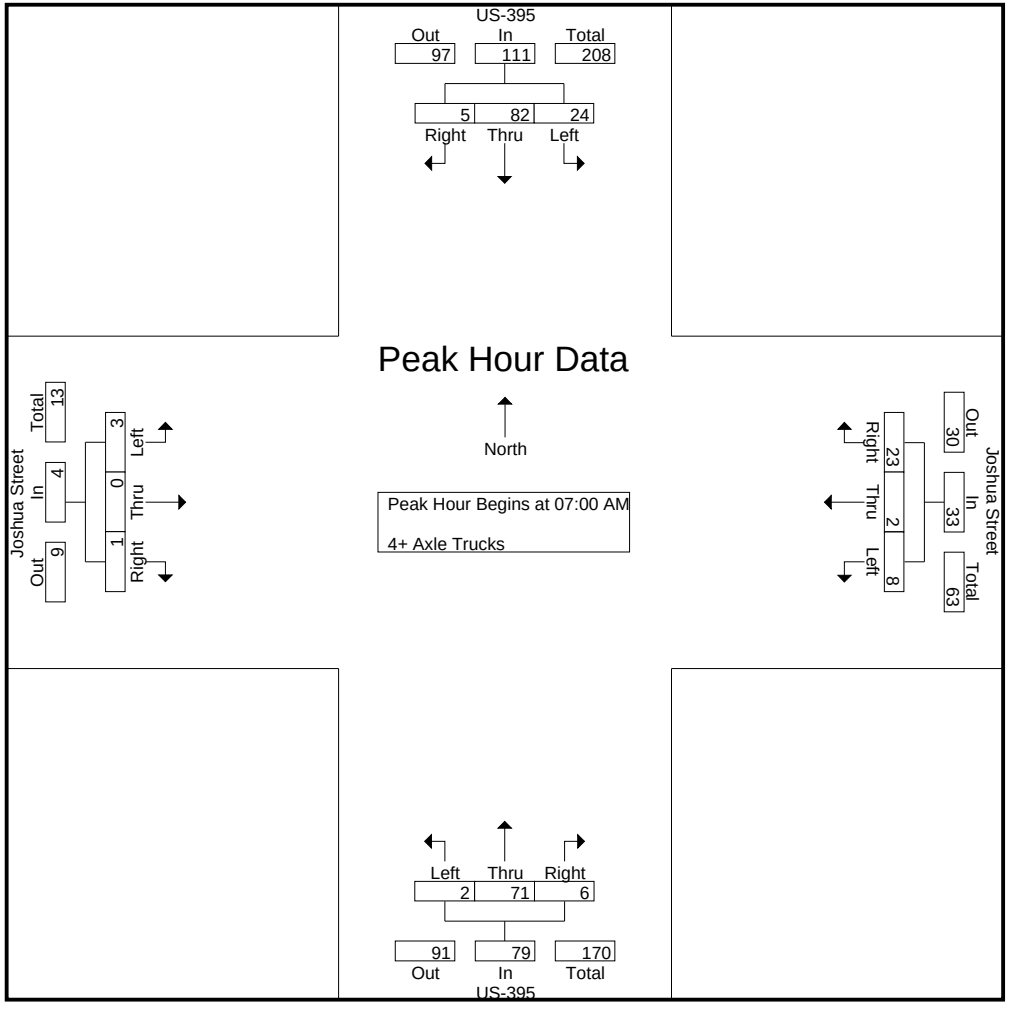
City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
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File Name : 02_HES_395_Jos AM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**9**	16	**2**	27	0	**1**	6	7	**1**	**24**	**5**	**30**	0	0	**1**	**1**	
+15 mins.	5	**30**	2	**37**	1	0	2	3	0	9	0	9	**1**	0	0	1	
+30 mins.	4	18	1	23	**4**	1	5	10	0	22	0	22	1	0	0	1	
+45 mins.	6	18	0	24	3	0	**10**	**13**	1	16	1	18	1	0	0	1	
Total Volume	24	82	5	111	8	2	23	33	2	71	6	79	3	0	1	4	
% App. Total	21.6	73.9	4.5		24.2	6.1	69.7		2.5	89.9	7.6		75	0	25		
PHF	.667	.683	.625	.750	.500	.500	.575	.635	.500	.740	.300	.658	.750	.000	.250	1.000	

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File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	24	139	8	2	171	13	10	50	17	73	6	211	20	8	237	7	15	1	0	23	27	504	531
04:15 PM	18	164	16	6	198	13	2	32	8	47	1	219	31	9	251	10	12	2	1	24	24	520	544
04:30 PM	13	135	9	3	157	20	3	54	11	77	4	216	23	7	243	12	9	0	0	21	21	498	519
04:45 PM	26	183	5	0	214	16	5	43	2	64	4	215	24	7	243	15	12	0	0	27	9	548	557
Total	81	621	38	11	740	62	20	179	38	261	15	861	98	31	974	44	48	3	1	95	81	2070	2151
05:00 PM	25	156	6	1	187	16	5	31	9	52	8	215	20	4	243	9	13	3	1	25	15	507	522
05:15 PM	19	117	5	1	141	17	10	34	5	61	1	168	15	3	184	8	4	3	1	15	10	401	411
05:30 PM	12	146	14	5	172	14	4	35	11	53	6	191	20	4	217	34	25	3	1	62	21	504	525
05:45 PM	12	126	5	1	143	14	6	35	7	55	6	216	29	9	251	16	8	0	0	24	17	473	490
Total	68	545	30	8	643	61	25	135	32	221	21	790	84	20	895	67	50	9	3	126	63	1885	1948
Grand Total	149	1166	68	19	1383	123	45	314	70	482	36	1651	182	51	1869	111	98	12	4	221	144	3955	4099
Apprch %	10.8	84.3	4.9			25.5	9.3	65.1			1.9	88.3	9.7			50.2	44.3	5.4					
Total %	3.8	29.5	1.7		35	3.1	1.1	7.9		12.2	0.9	41.7	4.6		47.3	2.8	2.5	0.3		5.6	3.5	96.5	
Passenger Vehicles	106	966	64		1153	112	40	246		458	35	1484	156		1720	109	96	11		220	0	0	3551
% Passenger Vehicles	71.1	82.8	94.1	89.5	82.2	91.1	88.9	78.3	85.7	83	97.2	89.9	85.7	88.2	89.6	98.2	98	91.7	100	97.8	0	0	86.6
Large 2 Axle Vehicles	2	15	2		20	3	2	2		7	0	12	1		13	2	0	0		2	0	0	42
% Large 2 Axle Vehicles	1.3	1.3	2.9	5.3	1.4	2.4	4.4	0.6	0	1.3	0	0.7	0.5	0	0.7	1.8	0	0	0	0.9	0	0	1
3 Axle Vehicles	1	21	0		22	1	1	2		5	0	18	2		21	0	1	0		1	0	0	49
% 3 Axle Vehicles	0.7	1.8	0	0	1.6	0.8	2.2	0.6	1.4	0.9	0	1.1	1.1	2	1.1	0	1	0	0	0.4	0	0	1.2
4+ Axle Trucks	40	164	2		207	7	2	64		82	1	137	23		166	0	1	1		2	0	0	457
% 4+ Axle Trucks	26.8	14.1	2.9	5.3	14.8	5.7	4.4	20.4	12.9	14.9	2.8	8.3	12.6	9.8	8.6	0	1	8.3	0	0.9	0	0	11.1

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	18	164	**16**	198	13	2	32	47	1	**219**	**31**	**251**	10	12	2	24	520
04:30 PM	13	135	9	157	**20**	3	**54**	**77**	4	216	23	243	12	9	0	21	498
04:45 PM	**26**	**183**	5	**214**	16	**5**	43	64	4	215	24	243	**15**	12	0	**27**	**548**
05:00 PM	25	156	6	187	16	5	31	52	**8**	215	20	243	9	**13**	**3**	25	507
Total Volume	82	638	36	756	65	15	160	240	17	865	98	980	46	46	5	97	2073
% App. Total	10.8	84.4	4.8		27.1	6.2	66.7		1.7	88.3	10		47.4	47.4	5.2		
PHF	.788	.872	.563	.883	.813	.750	.741	.779	.531	.987	.790	.976	.767	.885	.417	.898	.946

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File Name : 02_HES_395_Jos PM
Site Code : 05125030
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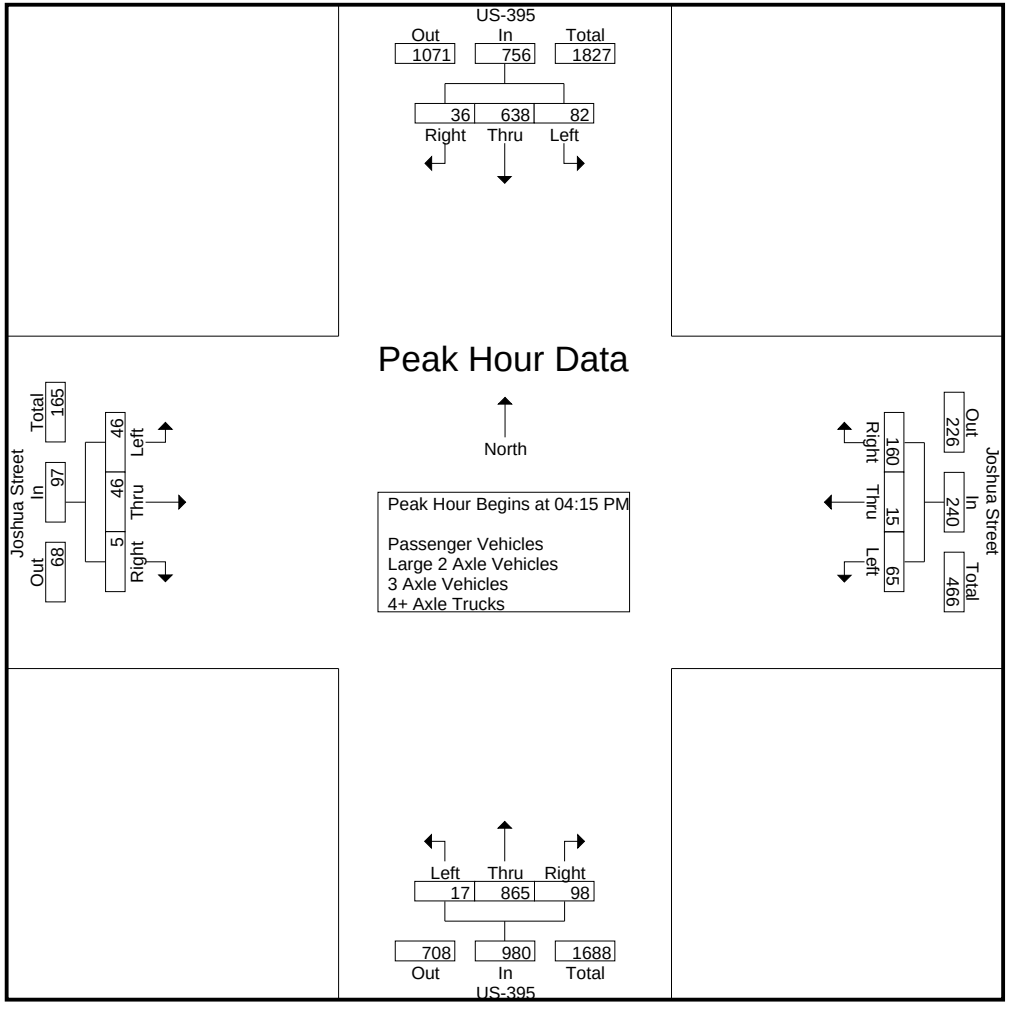

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File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 3

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:00 PM				04:15 PM				04:45 PM				
+0 mins.	18	164	**16**	198	13	**10**	50	73	1	**219**	**31**	**251**	15	12	0	27	
+15 mins.	13	135	9	157	13	2	32	47	4	216	23	243	9	13	**3**	25	
+30 mins.	**26**	**183**	5	**214**	**20**	3	**54**	**77**	4	215	24	243	8	4	3	15	
+45 mins.	25	156	6	187	16	5	43	64	**8**	215	20	243	**34**	**25**	3	**62**	
Total Volume	82	638	36	756	62	20	179	261	17	865	98	980	66	54	9	129	
% App. Total	10.8	84.4	4.8		23.8	7.7	68.6		1.7	88.3	10		51.2	41.9	7		
PHF	.788	.872	.563	.883	.775	.500	.829	.847	.531	.987	.790	.976	.485	.540	.750	.520	

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File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	13	111	8	2	132	9	8	41	14	58	6	184	16	6	206	7	14	1	0	22	22	418	440
04:15 PM	13	147	12	4	172	11	2	27	7	40	1	198	28	8	227	10	12	2	1	24	20	463	483
04:30 PM	10	106	9	3	125	19	2	42	9	63	3	197	22	7	222	11	9	0	0	20	19	430	449
04:45 PM	17	157	5	0	179	13	5	35	2	53	4	192	24	7	220	15	11	0	0	26	9	478	487
Total	53	521	34	9	608	52	17	145	32	214	14	771	90	28	875	43	46	3	1	92	70	1789	1859
05:00 PM	19	120	6	1	145	16	4	27	8	47	8	196	17	3	221	9	13	3	1	25	13	438	451
05:15 PM	13	105	5	1	123	16	10	23	5	49	1	155	10	2	166	7	4	2	1	13	9	351	360
05:30 PM	10	119	14	5	143	14	4	26	9	44	6	172	14	4	192	34	25	3	1	62	19	441	460
05:45 PM	11	101	5	1	117	14	5	25	6	44	6	190	25	8	221	16	8	0	0	24	15	406	421
Total	53	445	30	8	528	60	23	101	28	184	21	713	66	17	800	66	50	8	3	124	56	1636	1692
Grand Total	106	966	64	17	1136	112	40	246	60	398	35	1484	156	45	1675	109	96	11	4	216	126	3425	3551
Apprch %	9.3	85	5.6			28.1	10.1	61.8			2.1	88.6	9.3			50.5	44.4	5.1					
Total %	3.1	28.2	1.9		33.2	3.3	1.2	7.2		11.6	1	43.3	4.6		48.9	3.2	2.8	0.3		6.3	3.5	96.5	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	13	147	**12**	172	11	2	27	40	1	**198**	**28**	**227**	10	12	2	24	463
04:30 PM	10	106	9	125	**19**	2	**42**	**63**	3	197	22	222	11	9	0	20	430
04:45 PM	17	**157**	5	**179**	13	**5**	35	53	4	192	24	220	**15**	11	0	**26**	**478**
05:00 PM	**19**	120	6	145	16	4	27	47	**8**	196	17	221	9	**13**	**3**	25	438
Total Volume	59	530	32	621	59	13	131	203	16	783	91	890	45	45	5	95	1809
% App. Total	9.5	85.3	5.2		29.1	6.4	64.5		1.8	88	10.2		47.4	47.4	5.3		
PHF	.776	.844	.667	.867	.776	.650	.780	.806	.500	.989	.813	.980	.750	.865	.417	.913	.946

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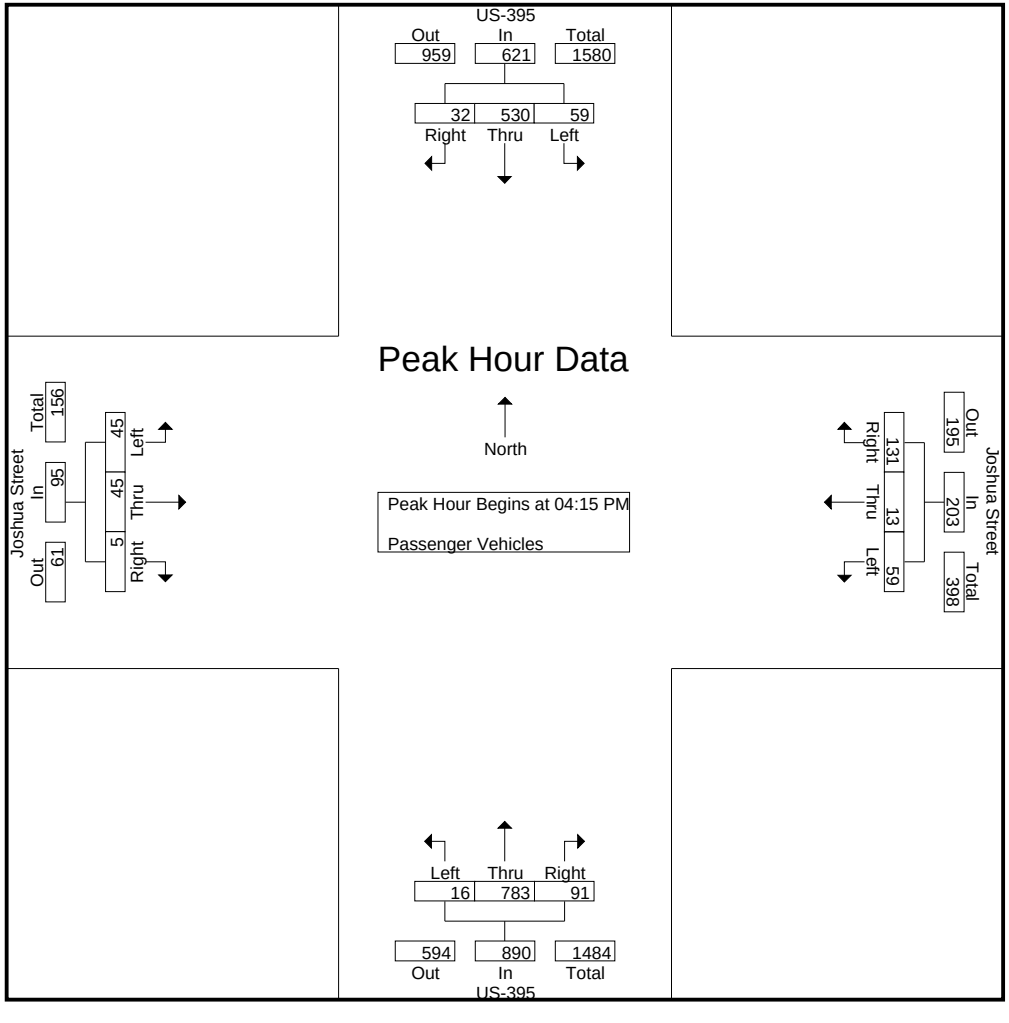
City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
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Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 3

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	13	147	**12**	172	11	2	27	40	1	**198**	**28**	**227**	10	12	2	24	
+15 mins.	10	106	9	125	**19**	2	**42**	**63**	3	197	22	222	11	9	0	20	
+30 mins.	17	**157**	5	**179**	13	**5**	35	53	4	192	24	220	**15**	11	0	**26**	
+45 mins.	**19**	120	6	145	16	4	27	47	**8**	196	17	221	9	**13**	**3**	25	
Total Volume	59	530	32	621	59	13	131	203	16	783	91	890	45	45	5	95	
% App. Total	9.5	85.3	5.2		29.1	6.4	64.5		1.8	88	10.2		47.4	47.4	5.3		
PHF	.776	.844	.667	.867	.776	.650	.780	.806	.500	.989	.813	.980	.750	.865	.417	.913	

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City of Hesperia
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E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	3
04:15 PM	0	4	2	1	6	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	8	9
04:30 PM	0	3	0	0	3	1	0	1	0	2	0	2	0	0	2	1	0	0	0	1	0	8	8
04:45 PM	0	1	0	0	1	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	4	4
Total	0	10	2	1	12	3	0	2	0	5	0	5	0	0	5	1	0	0	0	1	1	23	24
05:00 PM	1	2	0	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	5	5
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	4	4
05:30 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	5
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	4	4
Total	2	5	0	0	7	0	2	0	0	2	0	7	1	0	8	1	0	0	0	1	0	18	18
Grand Total	2	15	2	1	19	3	2	2	0	7	0	12	1	0	13	2	0	0	0	2	1	41	42
Apprch %	10.5	78.9	10.5			42.9	28.6	28.6			0	92.3	7.7			100	0	0					
Total %	4.9	36.6	4.9		46.3	7.3	4.9	4.9		17.1	0	29.3	2.4		31.7	4.9	0	0		4.9	2.4	97.6	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**4**	**2**	**6**	**1**	0	0	1	0	1	0	1	0	0	0	0	**8**
04:30 PM	0	3	0	3	1	0	**1**	**2**	0	**2**	0	**2**	**1**	0	0	**1**	8
04:45 PM	0	1	0	1	1	0	1	2	0	1	0	1	0	0	0	0	4
05:00 PM	**1**	2	0	3	0	**1**	0	1	0	1	0	1	0	0	0	0	5
Total Volume	1	10	2	13	3	1	2	6	0	5	0	5	1	0	0	1	25
% App. Total	7.7	76.9	15.4		50	16.7	33.3		0	100	0		100	0	0		
PHF	.250	.625	.250	.542	.750	.250	.500	.750	.000	.625	.000	.625	.250	.000	.000	.250	.781

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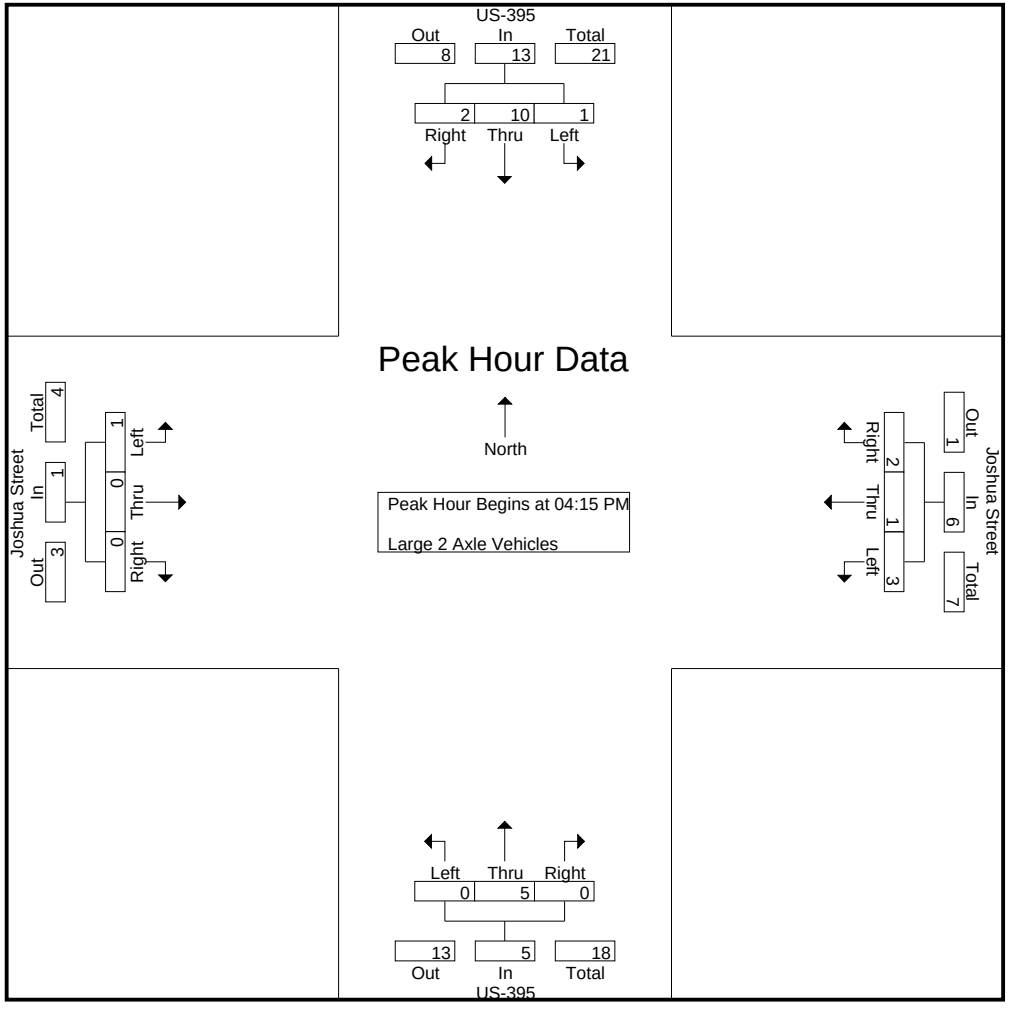
City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	0	**4**	**2**	**6**	**1**	0	0	1	0	1	0	1	0	0	0	0	
+15 mins.	0	3	0	3	1	0	**1**	**2**	0	**2**	0	**2**	**1**	0	0	**1**	
+30 mins.	0	1	0	1	1	0	1	2	0	1	0	1	0	0	0	0	
+45 mins.	**1**	2	0	3	0	**1**	0	1	0	1	0	1	0	0	0	0	
Total Volume	1	10	2	13	3	1	2	6	0	5	0	5	1	0	0	1	
% App. Total	7.7	76.9	15.4		50	16.7	33.3		0	100	0		100	0	0		
PHF	.250	.625	.250	.542	.750	.250	.500	.750	.000	.625	.000	.625	.250	.000	.000	.250	

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City of Hesperia
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Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	5	0	0	5	0	1	2	1	3	0	2	2	1	4	0	1	0	0	1	2	13	15
04:15 PM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3	3
04:30 PM	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	6
04:45 PM	1	3	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	7
Total	1	14	0	0	15	1	1	2	1	4	0	7	2	1	9	0	1	0	0	1	2	29	31
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	4
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	3
05:30 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	5
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	6
Total	0	7	0	0	7	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	18	18
Grand Total	1	21	0	0	22	1	1	2	1	4	0	18	2	1	20	0	1	0	0	1	2	47	49
Apprch %	4.5	95.5	0			25	25	50			0	90	10			0	100	0					
Total %	2.1	44.7	0		46.8	2.1	2.1	4.3		8.5	0	38.3	4.3		42.6	0	2.1	0		2.1	4.1	95.9	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	1	0	1	**1**	0	0	**1**	0	1	0	1	0	0	0	0	3
04:30 PM	0	**5**	0	**5**	0	0	0	0	0	1	0	1	0	0	0	0	6
04:45 PM	**1**	3	0	4	0	0	0	0	0	**3**	0	**3**	0	0	0	0	**7**
05:00 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total Volume	1	11	0	12	1	0	0	1	0	7	0	7	0	0	0	0	20
% App. Total	8.3	91.7	0		100	0	0		0	100	0		0	0	0		
PHF	.250	.550	.000	.600	.250	.000	.000	.250	.000	.583	.000	.583	.000	.000	.000	.000	.714

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City of Hesperia
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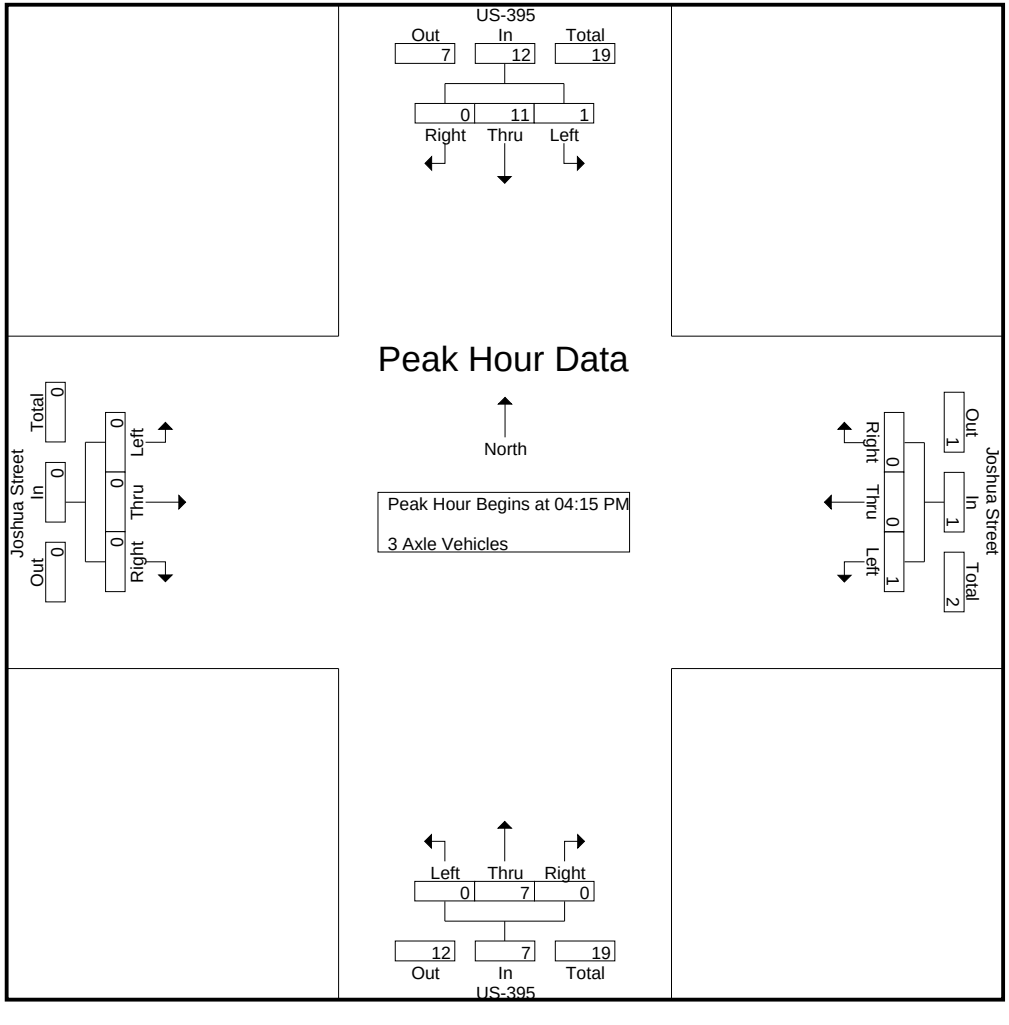
File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	0	1	0	1	**1**	0	0	**1**	0	1	0	1	0	0	0	0	
+15 mins.	0	**5**	0	**5**	0	0	0	0	0	1	0	1	0	0	0	0	
+30 mins.	**1**	3	0	4	0	0	0	0	0	**3**	0	**3**	0	0	0	0	
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	
Total Volume	1	11	0	12	1	0	0	1	0	7	0	7	0	0	0	0	
% App. Total	8.3	91.7	0		100	0	0		0	100	0		0	0	0		
PHF	.250	.550	.000	.600	.250	.000	.000	.250	.000	.583	.000	.583	.000	.000	.000	.000	

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File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- 4+ Axle Trucks

	US-395 Southbound					Joshua Street Westbound					US-395 Northbound					Joshua Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	11	21	0	0	32	4	1	7	2	12	0	24	2	1	26	0	0	0	0	0	3	70	73
04:15 PM	5	12	2	1	19	0	0	5	1	5	0	19	3	1	22	0	0	0	0	0	3	46	49
04:30 PM	3	21	0	0	24	0	1	11	2	12	1	16	1	0	18	0	0	0	0	0	2	54	56
04:45 PM	8	22	0	0	30	2	0	7	0	9	0	19	0	0	19	0	1	0	0	1	0	59	59
Total	27	76	2	1	105	6	2	30	5	38	1	78	6	2	85	0	1	0	0	1	8	229	237
05:00 PM	5	32	0	0	37	0	0	4	1	4	0	16	3	1	19	0	0	0	0	0	2	60	62
05:15 PM	5	11	0	0	16	1	0	11	0	12	0	10	4	1	14	0	0	1	0	1	1	43	44
05:30 PM	2	21	0	0	23	0	0	9	2	9	0	15	6	0	21	0	0	0	0	0	2	53	55
05:45 PM	1	24	0	0	25	0	0	10	1	10	0	18	4	1	22	0	0	0	0	0	2	57	59
Total	13	88	0	0	101	1	0	34	4	35	0	59	17	3	76	0	0	1	0	1	7	213	220
Grand Total	40	164	2	1	206	7	2	64	9	73	1	137	23	5	161	0	1	1	0	2	15	442	457
Apprch %	19.4	79.6	1			9.6	2.7	87.7			0.6	85.1	14.3			0	50	50					
Total %	9	37.1	0.5		46.6	1.6	0.5	14.5		16.5	0.2	31	5.2		36.4	0	0.2	0.2		0.5	3.3	96.7	

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	5	12	**2**	19	0	0	5	5	0	**19**	**3**	**22**	0	0	0	0	46
04:30 PM	3	21	0	24	0	**1**	**11**	**12**	**1**	16	1	18	0	0	0	0	54
04:45 PM	**8**	22	0	30	**2**	0	7	9	0	19	0	19	0	**1**	0	**1**	59
05:00 PM	5	**32**	0	**37**	0	0	4	4	0	16	3	19	0	0	0	0	**60**
Total Volume	21	87	2	110	2	1	27	30	1	70	7	78	0	1	0	1	219
% App. Total	19.1	79.1	1.8		6.7	3.3	90		1.3	89.7	9		0	100	0		
PHF	.656	.680	.250	.743	.250	.250	.614	.625	.250	.921	.583	.886	.000	.250	.000	.250	.913

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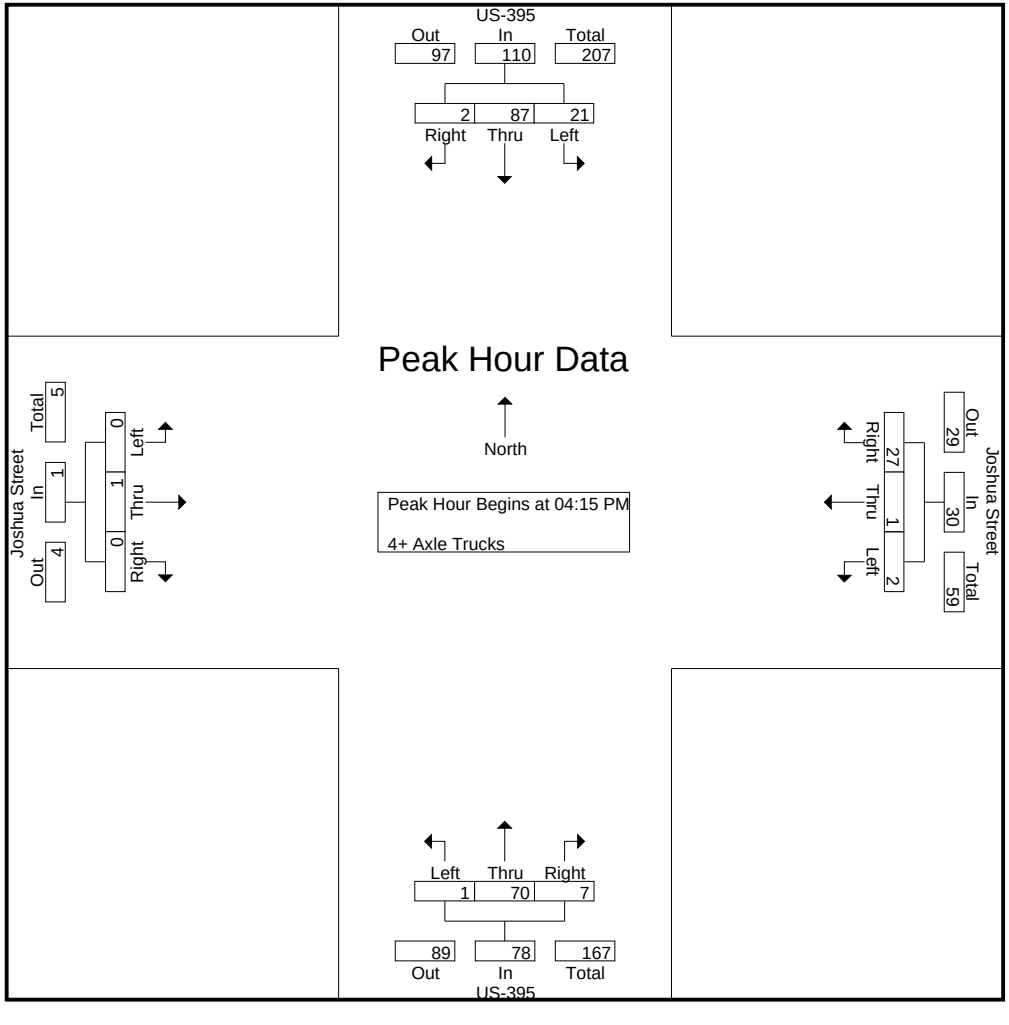
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Caliente Road
E/W: Joshua Street
Weather: Clear

File Name : 02_HES_395_Jos PM
Site Code : 05125030
Start Date : 2/11/2025

	US-395 Southbound				Joshua Street Westbound				US-395 Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:15 PM				04:15 PM				04:15 PM				
+0 mins.	5	12	**2**	19	0	0	5	5	0	**19**	**3**	**22**	0	0	0	0	
+15 mins.	3	21	0	24	0	**1**	**11**	**12**	**1**	16	1	18	0	0	0	0	
+30 mins.	**8**	22	0	30	**2**	0	7	9	0	19	0	19	0	**1**	0	**1**	
+45 mins.	5	**32**	0	**37**	0	0	4	4	0	16	3	19	0	0	0	0	
Total Volume	21	87	2	110	2	1	27	30	1	70	7	78	0	1	0	1	
% App. Total	19.1	79.1	1.8		6.7	3.3	90		1.3	89.7	9		0	100	0		
PHF	.656	.680	.250	.743	.250	.250	.614	.625	.250	.921	.583	.886	.000	.250	.000	.250	

Location: Hesperia
N/S: US-395
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg US-395	East Leg Joshua Street	South Leg US-395	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg US-395	East Leg Joshua Street	South Leg US-395	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

Location: Hesperia
N/S: US-395
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound US-395			Westbound Joshua Street			Northbound US-395			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound US-395			Westbound Joshua Street			Northbound US-395			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	0	14	19	1	40	15	56	0	0	0	0	15	30	0	45	120
07:15 AM	6	0	20	26	0	23	11	34	0	0	0	0	17	29	0	46	106
07:30 AM	3	0	24	27	0	31	11	42	0	0	0	0	10	18	0	28	97
07:45 AM	5	0	17	22	0	31	12	43	0	0	0	0	12	15	0	27	92
Total	19	0	75	94	1	125	49	175	0	0	0	0	54	92	0	146	415
08:00 AM	7	0	19	26	0	19	10	29	0	0	0	0	20	12	0	32	87
08:15 AM	5	0	25	30	0	13	14	27	0	0	0	0	9	10	0	19	76
08:30 AM	7	0	22	29	0	18	12	30	0	0	0	0	17	14	0	31	90
08:45 AM	9	0	21	30	0	21	15	36	0	0	0	0	26	18	0	44	110
Total	28	0	87	115	0	71	51	122	0	0	0	0	72	54	0	126	363
Grand Total	47	0	162	209	1	196	100	297	0	0	0	0	126	146	0	272	778
Apprch %	22.5	0	77.5		0.3	66	33.7		0	0	0		46.3	53.7	0		
Total %	6	0	20.8	26.9	0.1	25.2	12.9	38.2	0	0	0	0	16.2	18.8	0	35	
Passenger Vehicles	38	0	130	168	1	149	78	228	0	0	0	0	107	105	0	212	608
% Passenger Vehicles	80.9	0	80.2	80.4	100	76	78	76.8	0	0	0	0	84.9	71.9	0	77.9	78.1
Large 2 Axle Vehicles	1	0	1	2	0	6	0	6	0	0	0	0	2	5	0	7	15
% Large 2 Axle Vehicles	2.1	0	0.6	1	0	3.1	0	2	0	0	0	0	1.6	3.4	0	2.6	1.9
3 Axle Vehicles	2	0	6	8	0	7	2	9	0	0	0	0	5	0	0	5	22
% 3 Axle Vehicles	4.3	0	3.7	3.8	0	3.6	2	3	0	0	0	0	4	0	0	1.8	2.8
4+ Axle Trucks	6	0	25	31	0	34	20	54	0	0	0	0	12	36	0	48	133
% 4+ Axle Trucks	12.8	0	15.4	14.8	0	17.3	20	18.2	0	0	0	0	9.5	24.7	0	17.6	17.1

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	5	0	14	19	**1**	**40**	**15**	**56**	0	0	0	0	15	**30**	0	45	**120**
07:15 AM	**6**	0	20	26	0	23	11	34	0	0	0	0	**17**	29	0	**46**	106
07:30 AM	3	0	**24**	**27**	0	31	11	42	0	0	0	0	10	18	0	28	97
07:45 AM	5	0	17	22	0	31	12	43	0	0	0	0	12	15	0	27	92
Total Volume	19	0	75	94	1	125	49	175	0	0	0	0	54	92	0	146	415
% App. Total	20.2	0	79.8		0.6	71.4	28		0	0	0		37	63	0		
PHF	.792	.000	.781	.870	.250	.781	.817	.781	.000	.000	.000	.000	.794	.767	.000	.793	.865

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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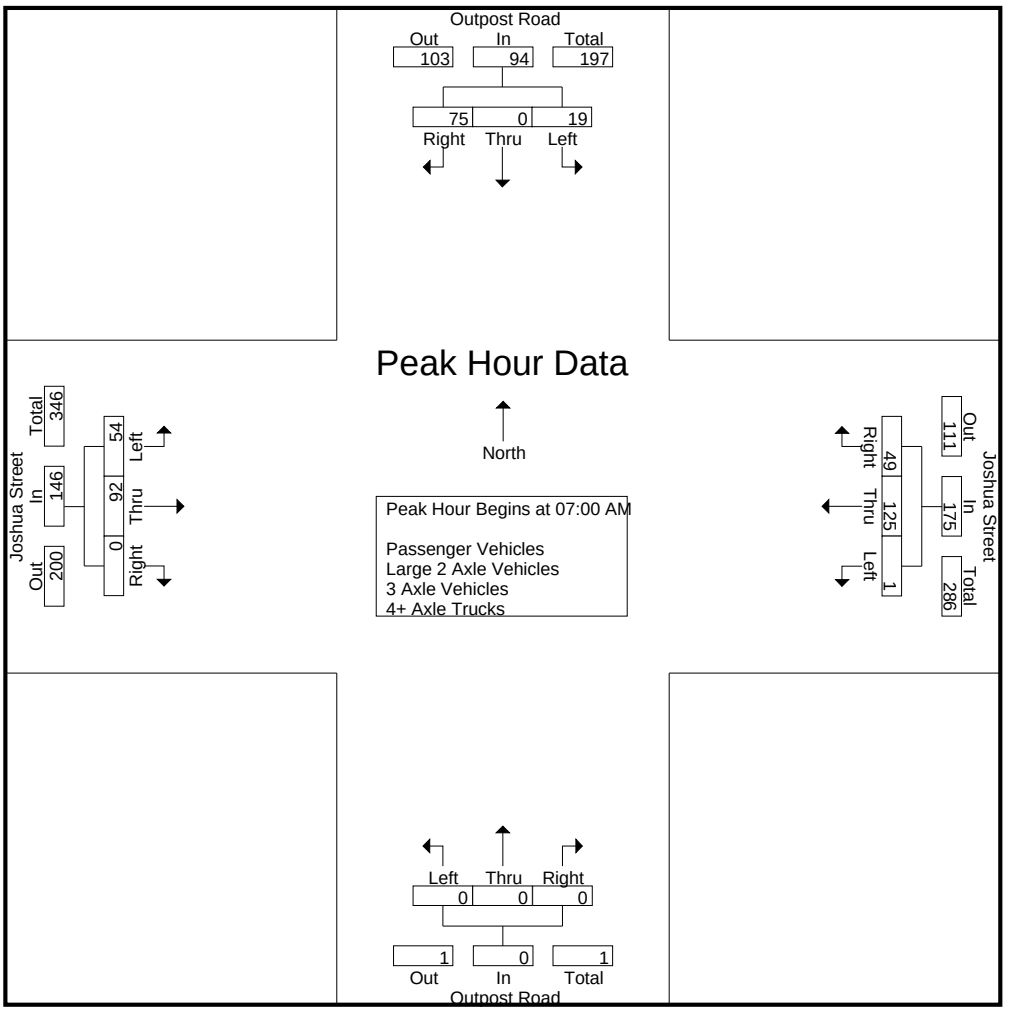

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	7	0	19	26	**1**	**40**	**15**	**56**	0	0	0	0	15	**30**	0	45
+15 mins.	5	0	**25**	**30**	0	23	11	34	0	0	0	0	**17**	29	0	**46**
+30 mins.	7	0	22	29	0	31	11	42	0	0	0	0	10	18	0	28
+45 mins.	**9**	0	21	30	0	31	12	43	0	0	0	0	12	15	0	27
Total Volume	28	0	87	115	1	125	49	175	0	0	0	0	54	92	0	146
% App. Total	24.3	0	75.7		0.6	71.4	28		0	0	0		37	63	0	
PHF	.778	.000	.870	.958	.250	.781	.817	.781	.000	.000	.000	.000	.794	.767	.000	.793

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File Name : 03_HES_Out_Jos AM
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Groups Printed- Passenger Vehicles

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	0	12	16	1	35	12	48	0	0	0	0	9	21	0	30	94
07:15 AM	4	0	18	22	0	20	9	29	0	0	0	0	17	23	0	40	91
07:30 AM	2	0	17	19	0	27	9	36	0	0	0	0	9	14	0	23	78
07:45 AM	4	0	14	18	0	25	9	34	0	0	0	0	11	8	0	19	71
Total	14	0	61	75	1	107	39	147	0	0	0	0	46	66	0	112	334
08:00 AM	5	0	16	21	0	14	9	23	0	0	0	0	18	9	0	27	71
08:15 AM	5	0	21	26	0	9	7	16	0	0	0	0	8	7	0	15	57
08:30 AM	7	0	13	20	0	10	10	20	0	0	0	0	16	11	0	27	67
08:45 AM	7	0	19	26	0	9	13	22	0	0	0	0	19	12	0	31	79
Total	24	0	69	93	0	42	39	81	0	0	0	0	61	39	0	100	274
Grand Total	38	0	130	168	1	149	78	228	0	0	0	0	107	105	0	212	608
Apprch %	22.6	0	77.4		0.4	65.4	34.2		0	0	0		50.5	49.5	0		
Total %	6.2	0	21.4	27.6	0.2	24.5	12.8	37.5	0	0	0	0	17.6	17.3	0	34.9	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**4**	0	12	16	**1**	**35**	**12**	**48**	0	0	0	0	9	21	0	30	**94**
07:15 AM	4	0	**18**	**22**	0	20	9	29	0	0	0	0	**17**	**23**	0	**40**	91
07:30 AM	2	0	17	19	0	27	9	36	0	0	0	0	9	14	0	23	78
07:45 AM	4	0	14	18	0	25	9	34	0	0	0	0	11	8	0	19	71
Total Volume	14	0	61	75	1	107	39	147	0	0	0	0	46	66	0	112	334
% App. Total	18.7	0	81.3		0.7	72.8	26.5		0	0	0		41.1	58.9	0		
PHF	.875	.000	.847	.852	.250	.764	.813	.766	.000	.000	.000	.000	.676	.717	.000	.700	.888

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City of Hesperia
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File Name : 03_HES_Out_Jos AM
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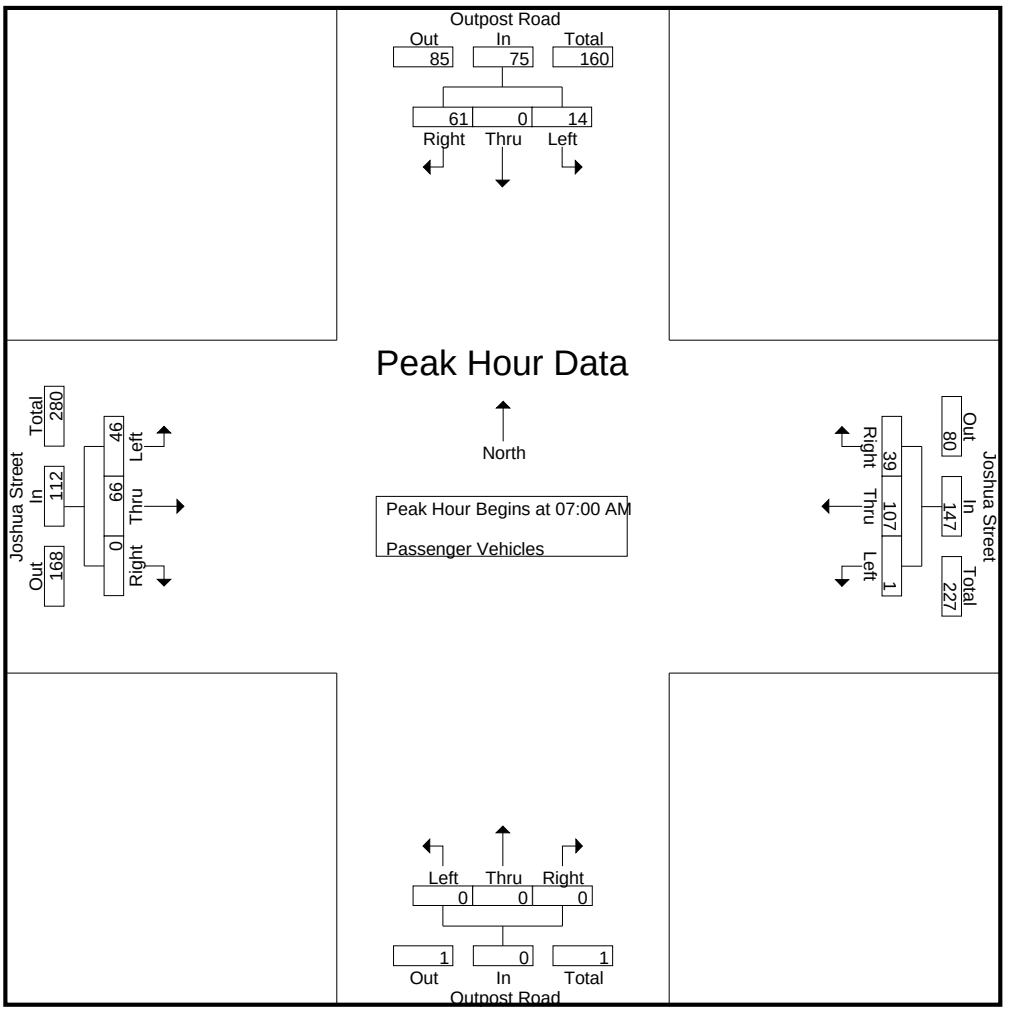

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**4**	0	12	16	**1**	**35**	**12**	**48**	0	0	0	0	9	21	0	30
+15 mins.	4	0	**18**	**22**	0	20	9	29	0	0	0	0	**17**	**23**	0	**40**
+30 mins.	2	0	17	19	0	27	9	36	0	0	0	0	9	14	0	23
+45 mins.	4	0	14	18	0	25	9	34	0	0	0	0	11	8	0	19
Total Volume	14	0	61	75	1	107	39	147	0	0	0	0	46	66	0	112
% App. Total	18.7	0	81.3		0.7	72.8	26.5		0	0	0		41.1	58.9	0	
PHF	.875	.000	.847	.852	.250	.764	.813	.766	.000	.000	.000	.000	.676	.717	.000	.700

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City of Hesperia
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File Name : 03_HES_Out_Jos AM
Site Code : 05125030
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Groups Printed- Large 2 Axle Vehicles

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	0	1	1	0	2	0	2	0	0	0	0	0	3	0	3	6
08:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	1	3
Total	1	0	0	1	0	4	0	4	0	0	0	0	2	2	0	4	9
Grand Total	1	0	1	2	0	6	0	6	0	0	0	0	2	5	0	7	15
Apprch %	50	0	50		0	100	0		0	0	0		28.6	71.4	0		
Total %	6.7	0	6.7	13.3	0	40	0	40	0	0	0	0	13.3	33.3	0	46.7	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	**1**	0	**1**	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1	**3**
Total Volume	0	0	1	1	0	2	0	2	0	0	0	0	0	3	0	3	6
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.750	.000	.750	.500

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File Name : 03_HES_Out_Jos AM
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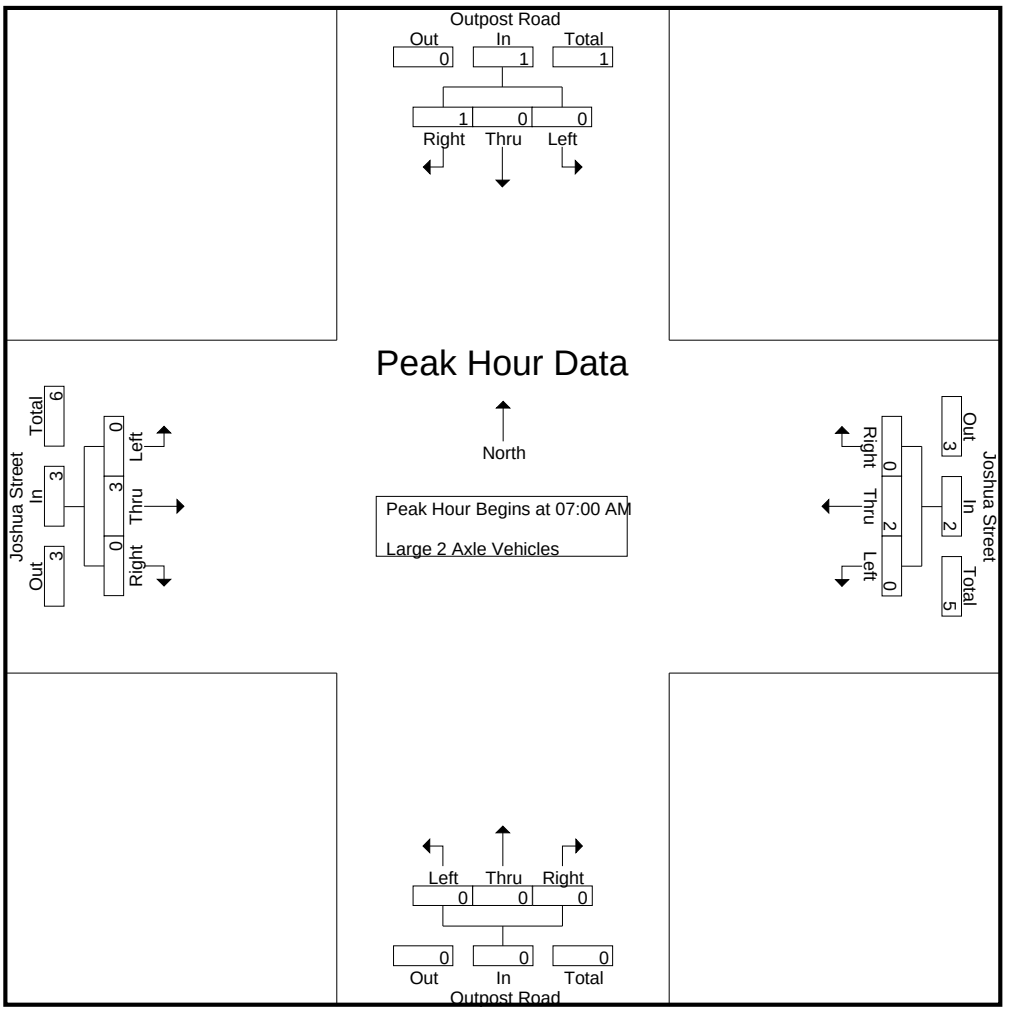

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1
Total Volume	0	0	1	1	0	2	0	2	0	0	0	0	0	3	0	3
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.750	.000	.750

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- 3 Axle Vehicles

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	0	1	0	1	1	2	0	0	0	0	2	0	0	2	5
07:15 AM	1	0	1	2	0	2	0	2	0	0	0	0	0	0	0	0	4
07:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	4	0	3	1	4	0	0	0	0	2	0	0	2	10
08:00 AM	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	3
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	2
08:30 AM	0	0	3	3	0	1	0	1	0	0	0	0	0	0	0	0	4
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	1	3
Total	0	0	4	4	0	4	1	5	0	0	0	0	3	0	0	3	12
Grand Total	2	0	6	8	0	7	2	9	0	0	0	0	5	0	0	5	22
Apprch %	25	0	75		0	77.8	22.2		0	0	0		100	0	0		
Total %	9.1	0	27.3	36.4	0	31.8	9.1	40.9	0	0	0	0	22.7	0	0	22.7	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	1	0	1	**1**	**2**	0	0	0	0	**2**	0	0	**2**	**5**
07:15 AM	1	0	**1**	**2**	0	**2**	0	2	0	0	0	0	0	0	0	0	4
07:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	4	0	3	1	4	0	0	0	0	2	0	0	2	10
% App. Total	50	0	50		0	75	25		0	0	0		100	0	0		
PHF	.500	.000	.500	.500	.000	.375	.250	.500	.000	.000	.000	.000	.250	.000	.000	.250	.500

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E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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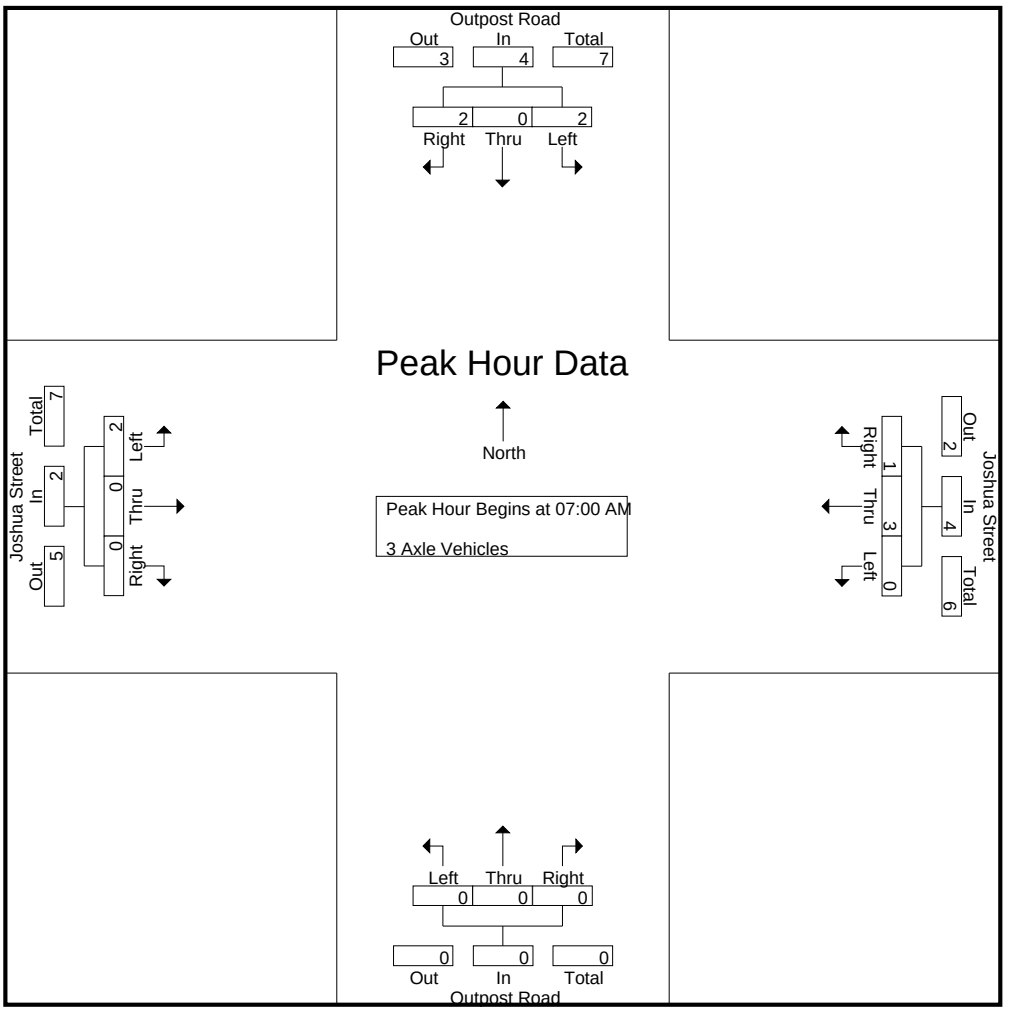

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**1**	0	0	1	0	1	**1**	**2**	0	0	0	0	**2**	0	0	**2**
+15 mins.	1	0	**1**	**2**	0	**2**	0	2	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	4	0	3	1	4	0	0	0	0	2	0	0	2
% App. Total	50	0	50		0	75	25		0	0	0		100	0	0	
PHF	.500	.000	.500	.500	.000	.375	.250	.500	.000	.000	.000	.000	.250	.000	.000	.250

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Groups Printed- 4+ Axle Trucks

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	4	2	6	0	0	0	0	4	8	0	12	19
07:15 AM	1	0	1	2	0	1	2	3	0	0	0	0	0	5	0	5	10
07:30 AM	1	0	6	7	0	4	2	6	0	0	0	0	1	4	0	5	18
07:45 AM	1	0	3	4	0	4	3	7	0	0	0	0	1	6	0	7	18
Total	3	0	11	14	0	13	9	22	0	0	0	0	6	23	0	29	65
08:00 AM	1	0	2	3	0	4	1	5	0	0	0	0	0	2	0	2	10
08:15 AM	0	0	4	4	0	4	6	10	0	0	0	0	0	3	0	3	17
08:30 AM	0	0	6	6	0	5	2	7	0	0	0	0	1	2	0	3	16
08:45 AM	2	0	2	4	0	8	2	10	0	0	0	0	5	6	0	11	25
Total	3	0	14	17	0	21	11	32	0	0	0	0	6	13	0	19	68
Grand Total	6	0	25	31	0	34	20	54	0	0	0	0	12	36	0	48	133
Apprch %	19.4	0	80.6		0	63	37		0	0	0		25	75	0		
Total %	4.5	0	18.8	23.3	0	25.6	15	40.6	0	0	0	0	9	27.1	0	36.1	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	1	1	0	**4**	2	6	0	0	0	0	**4**	**8**	0	**12**	**19**
07:15 AM	**1**	0	1	2	0	1	2	3	0	0	0	0	0	5	0	5	10
07:30 AM	1	0	**6**	**7**	0	4	2	6	0	0	0	0	1	4	0	5	18
07:45 AM	1	0	3	4	0	4	**3**	**7**	0	0	0	0	1	6	0	7	18
Total Volume	3	0	11	14	0	13	9	22	0	0	0	0	6	23	0	29	65
% App. Total	21.4	0	78.6		0	59.1	40.9		0	0	0		20.7	79.3	0		
PHF	.750	.000	.458	.500	.000	.813	.750	.786	.000	.000	.000	.000	.375	.719	.000	.604	.855

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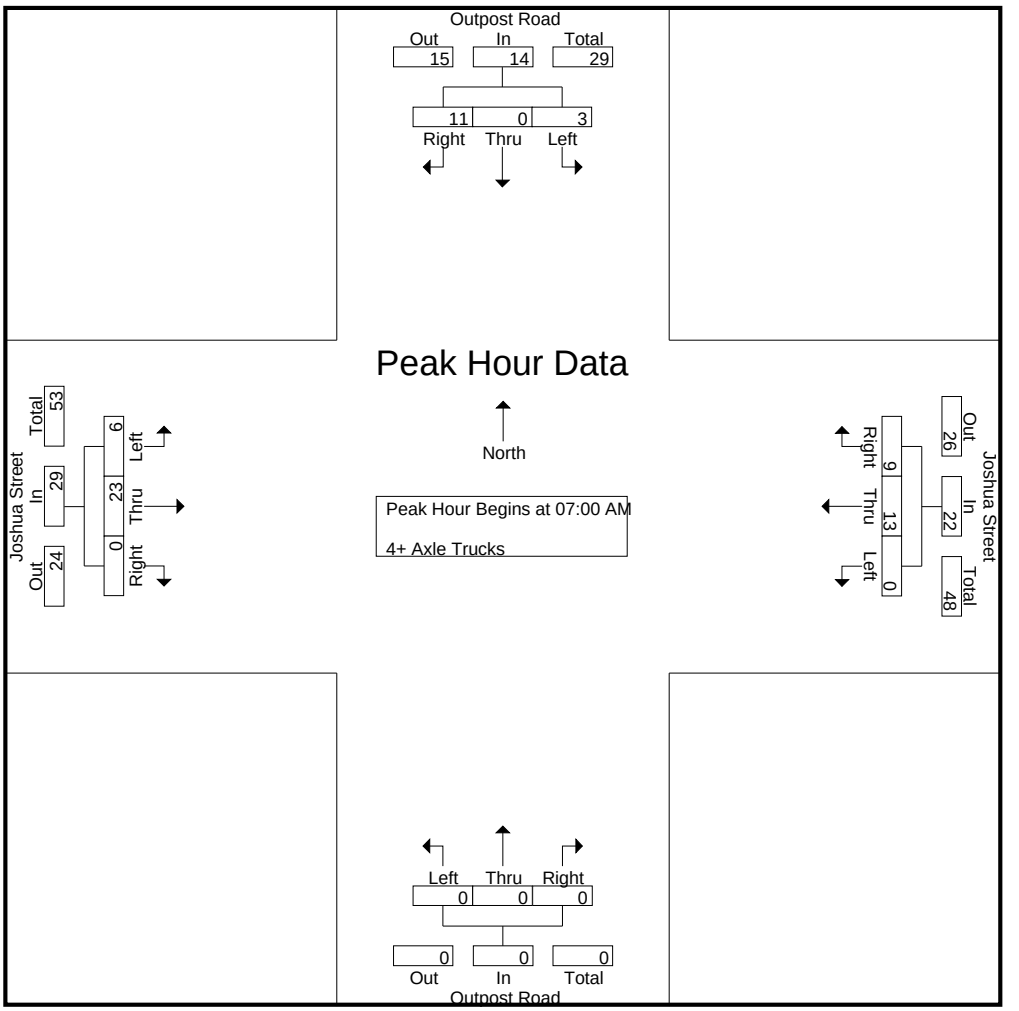

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	1	1	0	**4**	2	6	0	0	0	0	**4**	**8**	0	**12**
+15 mins.	**1**	0	1	2	0	1	2	3	0	0	0	0	0	5	0	5
+30 mins.	1	0	**6**	**7**	0	4	2	6	0	0	0	0	1	4	0	5
+45 mins.	1	0	3	4	0	4	**3**	**7**	0	0	0	0	1	6	0	7
Total Volume	3	0	11	14	0	13	9	22	0	0	0	0	6	23	0	29
% App. Total	21.4	0	78.6		0	59.1	40.9		0	0	0		20.7	79.3	0	
PHF	.750	.000	.458	.500	.000	.813	.750	.786	.000	.000	.000	.000	.375	.719	.000	.604

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File Name : 03_HES_Out_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	0	28	32	0	27	20	47	0	0	0	0	22	32	0	54	133
04:15 PM	9	0	27	36	0	15	15	30	0	0	0	0	26	25	0	51	117
04:30 PM	7	0	39	46	0	25	20	45	0	0	0	0	23	20	0	43	134
04:45 PM	8	0	38	46	0	23	16	39	0	0	0	0	25	32	0	57	142
Total	28	0	132	160	0	90	71	161	0	0	0	0	96	109	0	205	526
05:00 PM	6	0	26	32	0	21	9	30	0	0	0	0	26	30	0	56	118
05:15 PM	4	0	26	30	0	25	17	42	0	0	0	0	20	16	0	36	108
05:30 PM	7	0	29	36	0	16	18	34	0	0	0	0	20	33	0	53	123
05:45 PM	4	0	27	31	0	19	14	33	0	0	0	0	22	17	0	39	103
Total	21	0	108	129	0	81	58	139	0	0	0	0	88	96	0	184	452
Grand Total	49	0	240	289	0	171	129	300	0	0	0	0	184	205	0	389	978
Apprch %	17	0	83		0	57	43		0	0	0		47.3	52.7	0		
Total %	5	0	24.5	29.6	0	17.5	13.2	30.7	0	0	0	0	18.8	21	0	39.8	
Passenger Vehicles	48	0	207	255	0	130	101	231	0	0	0	0	160	164	0	324	810
% Passenger Vehicles	98	0	86.2	88.2	0	76	78.3	77	0	0	0	0	87	80	0	83.3	82.8
Large 2 Axle Vehicles	0	0	3	3	0	4	3	7	0	0	0	0	3	0	0	3	13
% Large 2 Axle Vehicles	0	0	1.2	1	0	2.3	2.3	2.3	0	0	0	0	1.6	0	0	0.8	1.3
3 Axle Vehicles	0	0	3	3	0	1	2	3	0	0	0	0	2	1	0	3	9
% 3 Axle Vehicles	0	0	1.2	1	0	0.6	1.6	1	0	0	0	0	1.1	0.5	0	0.8	0.9
4+ Axle Trucks	1	0	27	28	0	36	23	59	0	0	0	0	19	40	0	59	146
% 4+ Axle Trucks	2	0	11.2	9.7	0	21.1	17.8	19.7	0	0	0	0	10.3	19.5	0	15.2	14.9

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	4	0	28	32	0	**27**	**20**	**47**	0	0	0	0	22	**32**	0	54	133
04:15 PM	**9**	0	27	36	0	15	15	30	0	0	0	0	**26**	25	0	51	117
04:30 PM	7	0	**39**	**46**	0	25	20	45	0	0	0	0	23	20	0	43	134
04:45 PM	8	0	38	46	0	23	16	39	0	0	0	0	25	32	0	**57**	**142**
Total Volume	28	0	132	160	0	90	71	161	0	0	0	0	96	109	0	205	526
% App. Total	17.5	0	82.5		0	55.9	44.1		0	0	0		46.8	53.2	0		
PHF	.778	.000	.846	.870	.000	.833	.888	.856	.000	.000	.000	.000	.923	.852	.000	.899	.926

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File Name : 03_HES_Out_Jos PM
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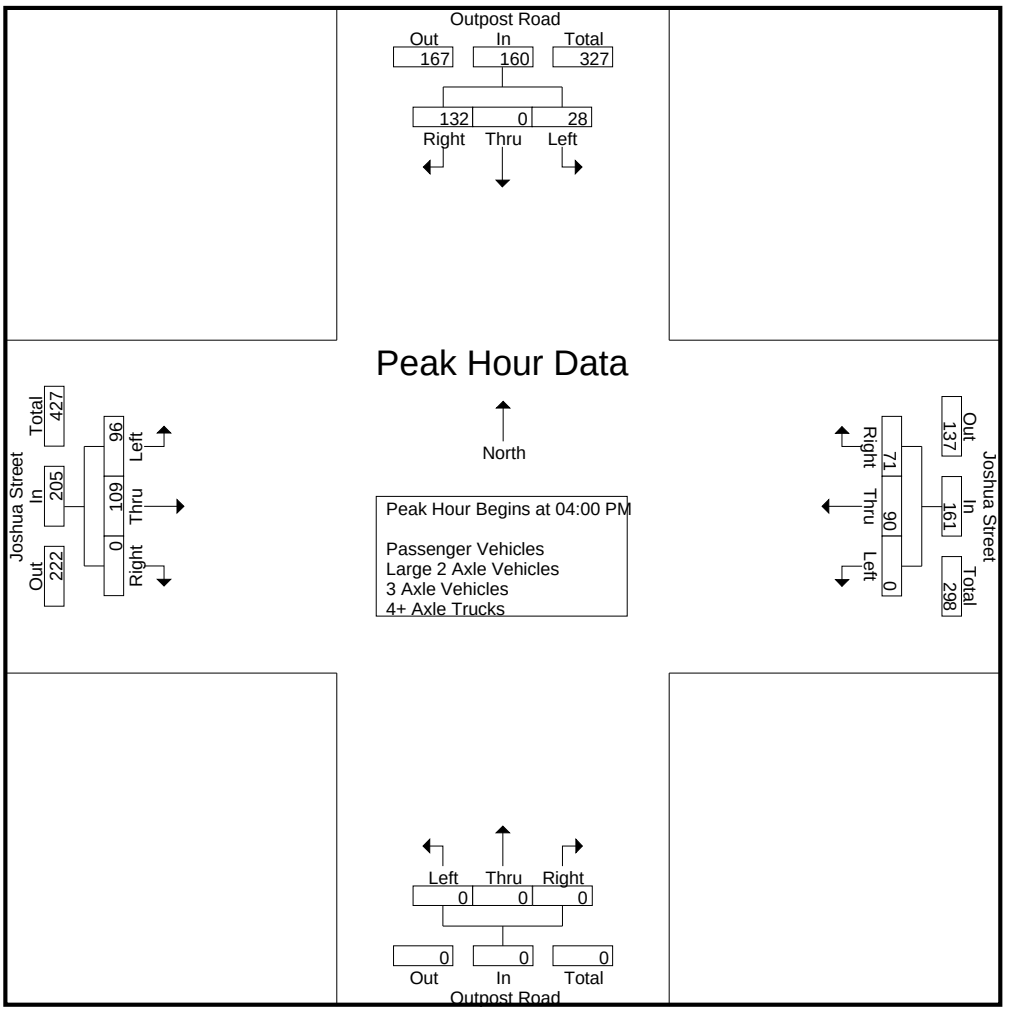
Start Date : 2/11/2025



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:15 PM			
+0 mins.	4	0	28	32	0	**27**	**20**	**47**	0	0	0	0	**26**	25	0	51
+15 mins.	**9**	0	27	36	0	15	15	30	0	0	0	0	23	20	0	43
+30 mins.	7	0	**39**	**46**	0	25	20	45	0	0	0	0	25	**32**	0	**57**
+45 mins.	8	0	38	46	0	23	16	39	0	0	0	0	26	30	0	56
Total Volume	28	0	132	160	0	90	71	161	0	0	0	0	100	107	0	207
% App. Total	17.5	0	82.5		0	55.9	44.1		0	0	0		48.3	51.7	0	
PHF	.778	.000	.846	.870	.000	.833	.888	.856	.000	.000	.000	.000	.962	.836	.000	.908

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Groups Printed- Passenger Vehicles

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	0	24	28	0	20	15	35	0	0	0	0	19	21	0	40	103
04:15 PM	9	0	20	29	0	15	14	29	0	0	0	0	24	20	0	44	102
04:30 PM	6	0	37	43	0	15	15	30	0	0	0	0	22	17	0	39	112
04:45 PM	8	0	34	42	0	17	12	29	0	0	0	0	24	23	0	47	118
Total	27	0	115	142	0	67	56	123	0	0	0	0	89	81	0	170	435
05:00 PM	6	0	25	31	0	18	7	25	0	0	0	0	23	25	0	48	104
05:15 PM	4	0	20	24	0	19	14	33	0	0	0	0	15	11	0	26	83
05:30 PM	7	0	25	32	0	13	14	27	0	0	0	0	14	31	0	45	104
05:45 PM	4	0	22	26	0	13	10	23	0	0	0	0	19	16	0	35	84
Total	21	0	92	113	0	63	45	108	0	0	0	0	71	83	0	154	375
Grand Total	48	0	207	255	0	130	101	231	0	0	0	0	160	164	0	324	810
Apprch %	18.8	0	81.2		0	56.3	43.7		0	0	0		49.4	50.6	0		
Total %	5.9	0	25.6	31.5	0	16	12.5	28.5	0	0	0	0	19.8	20.2	0	40	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	4	0	24	28	0	**20**	**15**	**35**	0	0	0	0	19	21	0	40	103
04:15 PM	**9**	0	20	29	0	15	14	29	0	0	0	0	**24**	20	0	44	102
04:30 PM	6	0	**37**	**43**	0	15	15	30	0	0	0	0	22	17	0	39	112
04:45 PM	8	0	34	42	0	17	12	29	0	0	0	0	24	**23**	0	**47**	**118**
Total Volume	27	0	115	142	0	67	56	123	0	0	0	0	89	81	0	170	435
% App. Total	19	0	81		0	54.5	45.5		0	0	0		52.4	47.6	0		
PHF	.750	.000	.777	.826	.000	.838	.933	.879	.000	.000	.000	.000	.927	.880	.000	.904	.922

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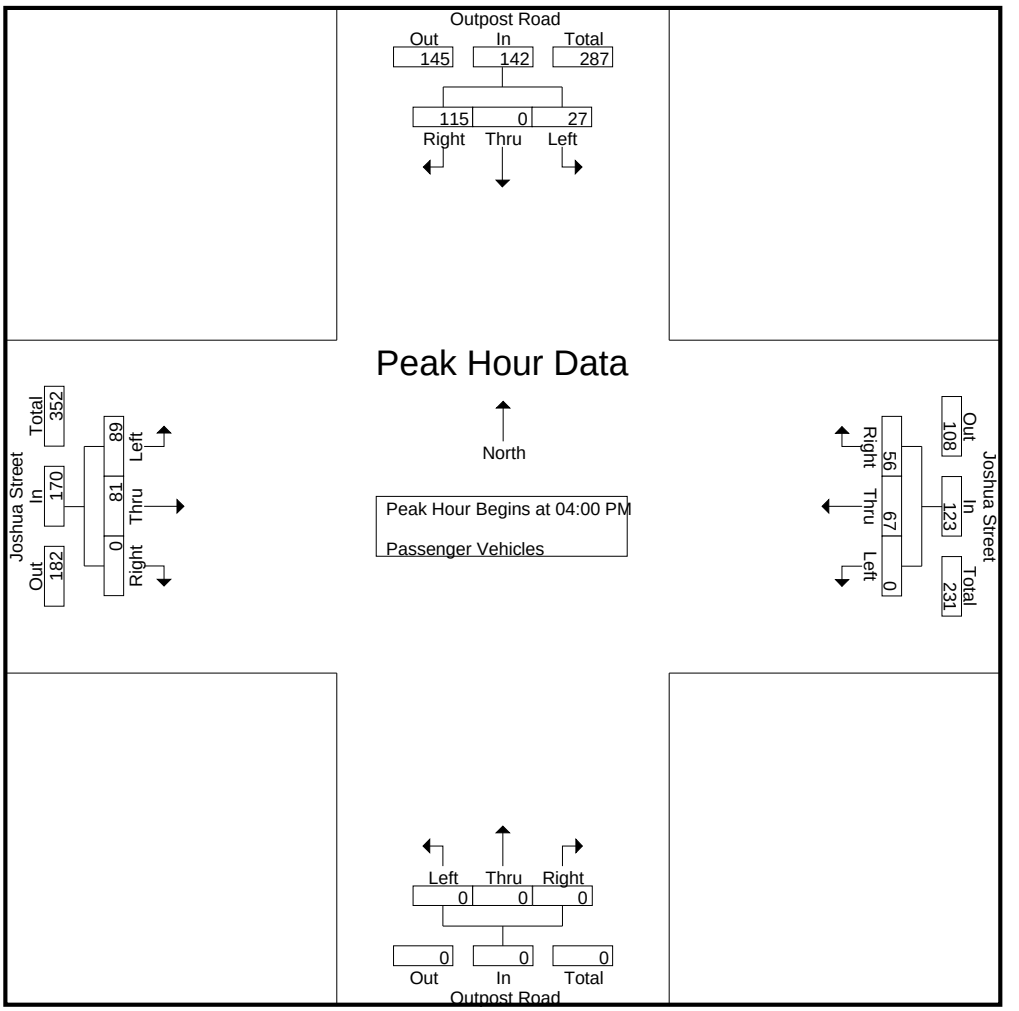

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	4	0	24	28	0	**20**	**15**	**35**	0	0	0	0	19	21	0	40
+15 mins.	**9**	0	20	29	0	15	14	29	0	0	0	0	**24**	20	0	44
+30 mins.	6	0	**37**	**43**	0	15	15	30	0	0	0	0	22	17	0	39
+45 mins.	8	0	34	42	0	17	12	29	0	0	0	0	24	**23**	0	**47**
Total Volume	27	0	115	142	0	67	56	123	0	0	0	0	89	81	0	170
% App. Total	19	0	81		0	54.5	45.5		0	0	0		52.4	47.6	0	
PHF	.750	.000	.777	.826	.000	.838	.933	.879	.000	.000	.000	.000	.927	.880	.000	.904

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Groups Printed- Large 2 Axle Vehicles

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	1	1	0	2	2	4	0	0	0	0	0	0	0	0	5
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	2	2	0	3	2	5	0	0	0	0	0	0	0	0	7
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
Total	0	0	1	1	0	1	1	2	0	0	0	0	3	0	0	3	6
Grand Total	0	0	3	3	0	4	3	7	0	0	0	0	3	0	0	3	13
Apprch %	0	0	100		0	57.1	42.9		0	0	0		100	0	0		
Total %	0	0	23.1	23.1	0	30.8	23.1	53.8	0	0	0	0	23.1	0	0	23.1	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	1	1	0	**2**	**2**	**4**	0	0	0	0	0	0	0	0	**5**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	2	2	0	3	2	5	0	0	0	0	0	0	0	0	7
% App. Total	0	0	100		0	60	40		0	0	0		0	0	0		
PHF	.000	.000	.500	.500	.000	.375	.250	.313	.000	.000	.000	.000	.000	.000	.000	.000	.350

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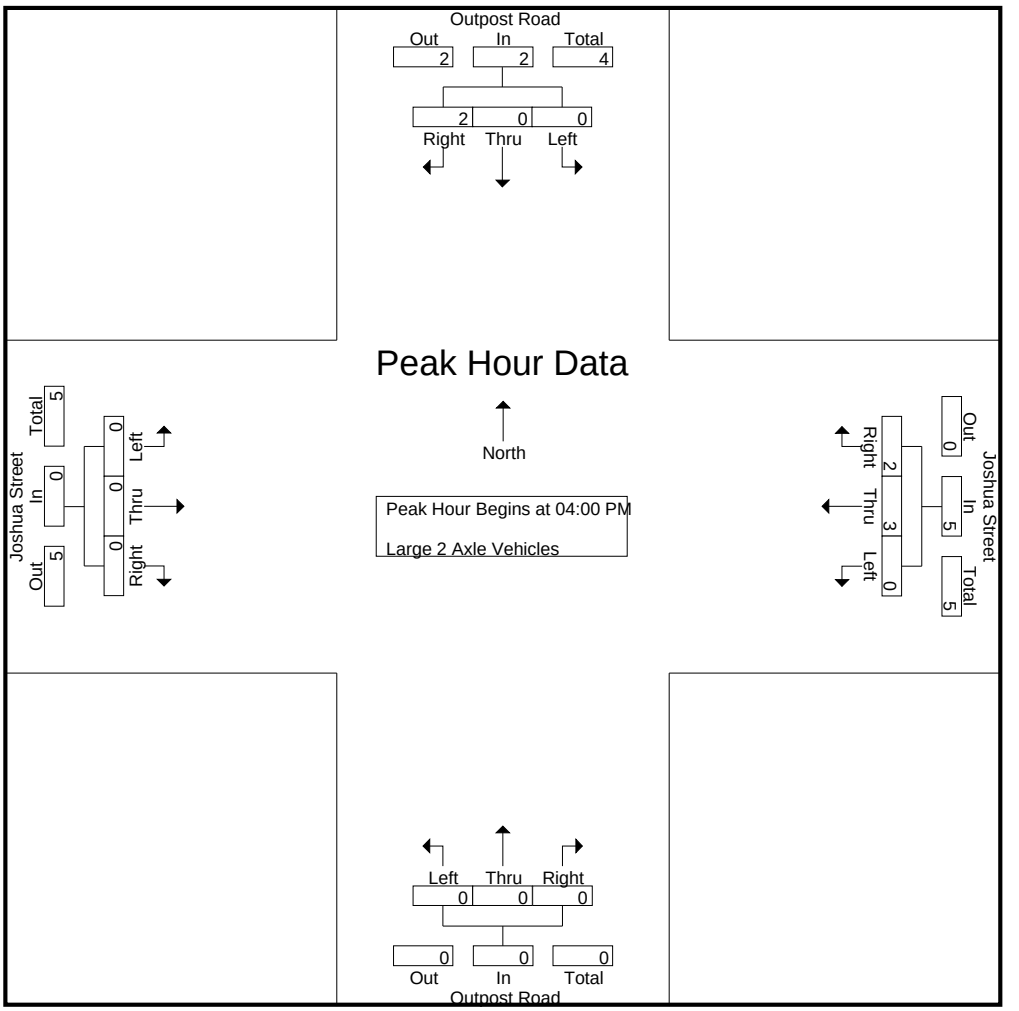

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	1	0	**2**	**2**	**4**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	3	2	5	0	0	0	0	0	0	0	0
% App. Total	0	0	100		0	60	40		0	0	0		0	0	0	
PHF	.000	.000	.500	.500	.000	.375	.250	.313	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- 3 Axle Vehicles

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	1	1	0	1	1	2	0	0	0	0	2	0	0	2	5
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	2	2	0	1	1	2	0	0	0	0	2	1	0	3	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
Grand Total	0	0	3	3	0	1	2	3	0	0	0	0	2	1	0	3	9
Apprch %	0	0	100		0	33.3	66.7		0	0	0		66.7	33.3	0		
Total %	0	0	33.3	33.3	0	11.1	22.2	33.3	0	0	0	0	22.2	11.1	0	33.3	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	**1**	**1**	0	**1**	**1**	**2**	0	0	0	0	**2**	0	0	**2**	**5**
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	1
Total Volume	0	0	2	2	0	1	1	2	0	0	0	0	2	1	0	3	7
% App. Total	0	0	100		0	50	50		0	0	0		66.7	33.3	0		
PHF	.000	.000	.500	.500	.000	.250	.250	.250	.000	.000	.000	.000	.250	.250	.000	.375	.350

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
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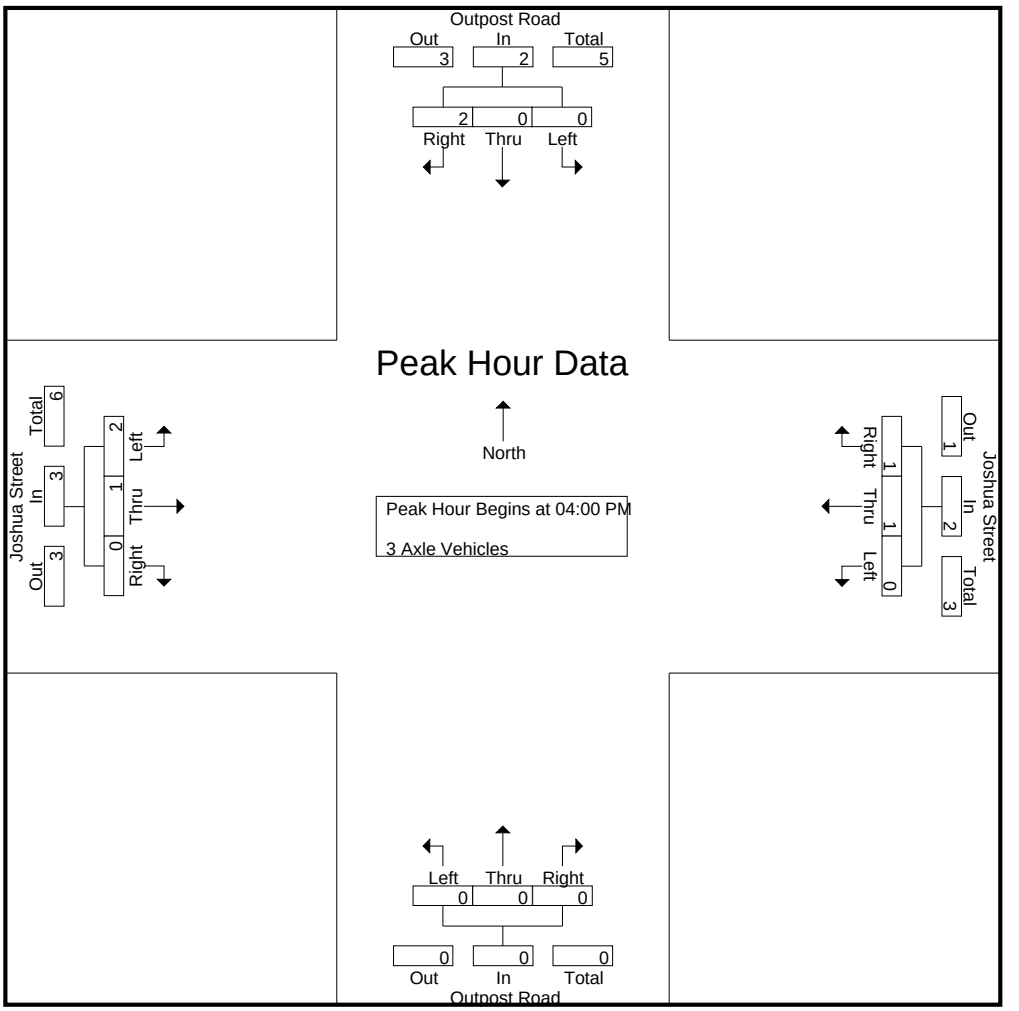

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	**1**	**1**	0	**1**	**1**	**2**	0	0	0	0	**2**	0	0	**2**
+15 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1
Total Volume	0	0	2	2	0	1	1	2	0	0	0	0	2	1	0	3
% App. Total	0	0	100		0	50	50		0	0	0		66.7	33.3	0	
PHF	.000	.000	.500	.500	.000	.250	.250	.250	.000	.000	.000	.000	.250	.250	.000	.375

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
Weather: Clear

File Name : 03_HES_Out_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	3	3	0	6	4	10	0	0	0	0	1	11	0	12	25
04:15 PM	0	0	5	5	0	0	1	1	0	0	0	0	2	5	0	7	13
04:30 PM	1	0	1	2	0	8	3	11	0	0	0	0	1	3	0	4	17
04:45 PM	0	0	4	4	0	5	4	9	0	0	0	0	1	8	0	9	22
Total	1	0	13	14	0	19	12	31	0	0	0	0	5	27	0	32	77
05:00 PM	0	0	1	1	0	2	2	4	0	0	0	0	2	5	0	7	12
05:15 PM	0	0	6	6	0	6	3	9	0	0	0	0	3	5	0	8	23
05:30 PM	0	0	4	4	0	3	3	6	0	0	0	0	6	2	0	8	18
05:45 PM	0	0	3	3	0	6	3	9	0	0	0	0	3	1	0	4	16
Total	0	0	14	14	0	17	11	28	0	0	0	0	14	13	0	27	69
Grand Total	1	0	27	28	0	36	23	59	0	0	0	0	19	40	0	59	146
Apprch %	3.6	0	96.4		0	61	39		0	0	0		32.2	67.8	0		
Total %	0.7	0	18.5	19.2	0	24.7	15.8	40.4	0	0	0	0	13	27.4	0	40.4	

	Outpost Road Southbound				Joshua Street Westbound				Outpost Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	3	3	0	6	**4**	10	0	0	0	0	1	**11**	0	**12**	**25**
04:15 PM	0	0	**5**	**5**	0	0	1	1	0	0	0	0	**2**	5	0	7	13
04:30 PM	**1**	0	1	2	0	**8**	3	**11**	0	0	0	0	1	3	0	4	17
04:45 PM	0	0	4	4	0	5	4	9	0	0	0	0	1	8	0	9	22
Total Volume	1	0	13	14	0	19	12	31	0	0	0	0	5	27	0	32	77
% App. Total	7.1	0	92.9		0	61.3	38.7		0	0	0		15.6	84.4	0		
PHF	.250	.000	.650	.700	.000	.594	.750	.705	.000	.000	.000	.000	.625	.614	.000	.667	.770

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City of Hesperia
N/S: Outpost Road
E/W: Joshua Street
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File Name : 03_HES_Out_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
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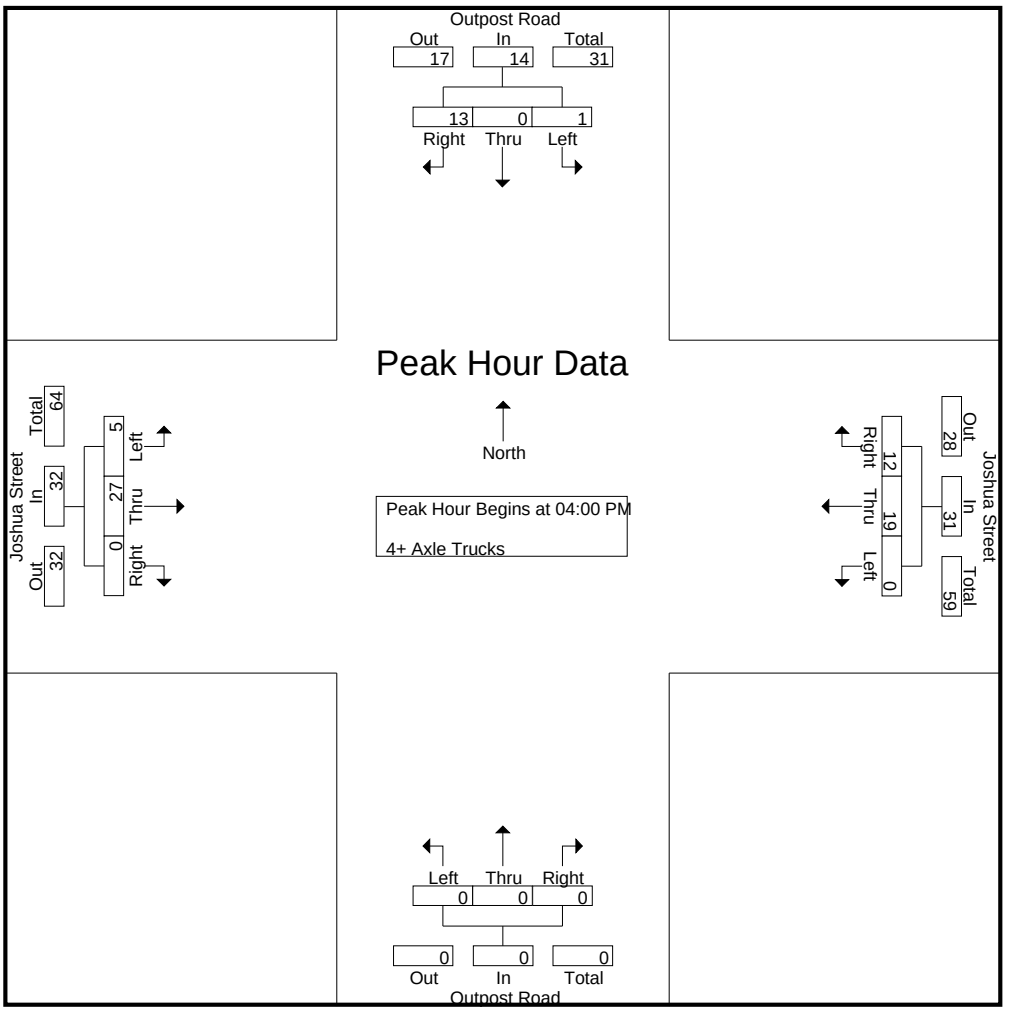

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	3	3	0	6	**4**	10	0	0	0	0	1	**11**	0	**12**
+15 mins.	0	0	**5**	**5**	0	0	1	1	0	0	0	0	**2**	5	0	7
+30 mins.	**1**	0	1	2	0	**8**	3	**11**	0	0	0	0	1	3	0	4
+45 mins.	0	0	4	4	0	5	4	9	0	0	0	0	1	8	0	9
Total Volume	1	0	13	14	0	19	12	31	0	0	0	0	5	27	0	32
% App. Total	7.1	0	92.9		0	61.3	38.7		0	0	0		15.6	84.4	0	
PHF	.250	.000	.650	.700	.000	.594	.750	.705	.000	.000	.000	.000	.625	.614	.000	.667

Location: Hesperia
N/S: Outpost Road
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg Outpost Road	East Leg Joshua Street	South Leg Outpost Road	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	1	1	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	2	0	0	3

	North Leg Outpost Road	East Leg Joshua Street	South Leg Outpost Road	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	1	2	0	0	3
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	2	0	0	4

Location: Hesperia
N/S: Outpost Road
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound Outpost Road			Westbound Joshua Street			Northbound Outpost Road			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Outpost Road			Westbound Joshua Street			Northbound Outpost Road			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	1	0	0	0	0	0	0	1

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	66	15	81	0	0	0	0	13	22	0	35	5	0	30	35	151
07:15 AM	0	54	7	61	0	0	0	0	16	25	0	41	4	0	24	28	130
07:30 AM	0	58	12	70	0	0	0	0	17	18	0	35	11	0	50	61	166
07:45 AM	0	34	14	48	0	0	0	0	11	11	0	22	6	0	10	16	86
Total	0	212	48	260	0	0	0	0	57	76	0	133	26	0	114	140	533
08:00 AM	0	30	3	33	0	0	0	0	10	13	0	23	3	0	15	18	74
08:15 AM	0	42	3	45	0	0	0	0	7	8	0	15	4	0	5	9	69
08:30 AM	0	15	5	20	0	0	0	0	4	10	0	14	2	0	7	9	43
08:45 AM	0	18	7	25	0	0	0	0	9	8	0	17	10	0	4	14	56
Total	0	105	18	123	0	0	0	0	30	39	0	69	19	0	31	50	242
Grand Total	0	317	66	383	0	0	0	0	87	115	0	202	45	0	145	190	775
Apprch %	0	82.8	17.2		0	0	0		43.1	56.9	0		23.7	0	76.3		
Total %	0	40.9	8.5	49.4	0	0	0	0	11.2	14.8	0	26.1	5.8	0	18.7	24.5	
Passenger Vehicles	0	311	58	369	0	0	0	0	81	113	0	194	40	0	138	178	741
% Passenger Vehicles	0	98.1	87.9	96.3	0	0	0	0	93.1	98.3	0	96	88.9	0	95.2	93.7	95.6
Large 2 Axle Vehicles	0	4	3	7	0	0	0	0	2	2	0	4	1	0	4	5	16
% Large 2 Axle Vehicles	0	1.3	4.5	1.8	0	0	0	0	2.3	1.7	0	2	2.2	0	2.8	2.6	2.1
3 Axle Vehicles	0	2	2	4	0	0	0	0	2	0	0	2	2	0	0	2	8
% 3 Axle Vehicles	0	0.6	3	1	0	0	0	0	2.3	0	0	1	4.4	0	0	1.1	1
4+ Axle Trucks	0	0	3	3	0	0	0	0	2	0	0	2	2	0	3	5	10
% 4+ Axle Trucks	0	0	4.5	0.8	0	0	0	0	2.3	0	0	1	4.4	0	2.1	2.6	1.3

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**66**	**15**	**81**	0	0	0	0	13	22	0	35	5	0	30	35	151
07:15 AM	0	54	7	61	0	0	0	0	16	**25**	0	**41**	4	0	24	28	130
07:30 AM	0	58	12	70	0	0	0	0	**17**	18	0	35	**11**	0	**50**	**61**	**166**
07:45 AM	0	34	14	48	0	0	0	0	11	11	0	22	6	0	10	16	86
Total Volume	0	212	48	260	0	0	0	0	57	76	0	133	26	0	114	140	533
% App. Total	0	81.5	18.5		0	0	0		42.9	57.1	0		18.6	0	81.4		
PHF	.000	.803	.800	.802	.000	.000	.000	.000	.838	.760	.000	.811	.591	.000	.570	.574	.803

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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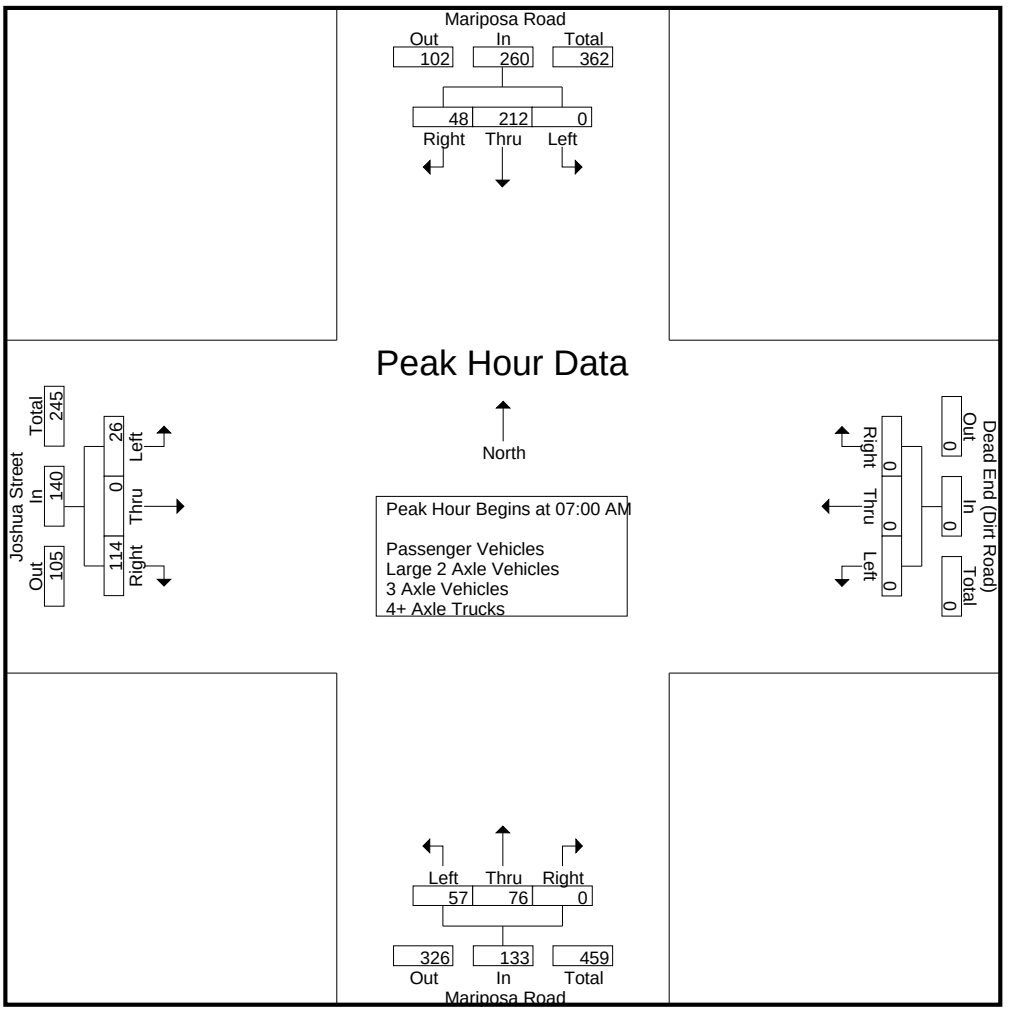

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	**66**	**15**	**81**	0	0	0	0	13	22	0	35	5	0	30	35
+15 mins.	0	54	7	61	0	0	0	0	16	**25**	0	**41**	4	0	24	28
+30 mins.	0	58	12	70	0	0	0	0	**17**	18	0	35	**11**	0	**50**	**61**
+45 mins.	0	34	14	48	0	0	0	0	11	11	0	22	6	0	10	16
Total Volume	0	212	48	260	0	0	0	0	57	76	0	133	26	0	114	140
% App. Total	0	81.5	18.5		0	0	0		42.9	57.1	0		18.6	0	81.4	
PHF	.000	.803	.800	.802	.000	.000	.000	.000	.838	.760	.000	.811	.591	.000	.570	.574

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	66	14	80	0	0	0	0	13	21	0	34	5	0	30	35	149
07:15 AM	0	53	6	59	0	0	0	0	15	25	0	40	1	0	23	24	123
07:30 AM	0	55	10	65	0	0	0	0	17	18	0	35	10	0	47	57	157
07:45 AM	0	34	13	47	0	0	0	0	11	11	0	22	6	0	10	16	85
Total	0	208	43	251	0	0	0	0	56	75	0	131	22	0	110	132	514
08:00 AM	0	28	3	31	0	0	0	0	9	13	0	22	2	0	12	14	67
08:15 AM	0	42	3	45	0	0	0	0	6	8	0	14	4	0	5	9	68
08:30 AM	0	15	4	19	0	0	0	0	3	9	0	12	2	0	7	9	40
08:45 AM	0	18	5	23	0	0	0	0	7	8	0	15	10	0	4	14	52
Total	0	103	15	118	0	0	0	0	25	38	0	63	18	0	28	46	227
Grand Total	0	311	58	369	0	0	0	0	81	113	0	194	40	0	138	178	741
Apprch %	0	84.3	15.7		0	0	0		41.8	58.2	0		22.5	0	77.5		
Total %	0	42	7.8	49.8	0	0	0	0	10.9	15.2	0	26.2	5.4	0	18.6	24	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**66**	**14**	**80**	0	0	0	0	13	21	0	34	5	0	30	35	149
07:15 AM	0	53	6	59	0	0	0	0	15	**25**	0	**40**	1	0	23	24	123
07:30 AM	0	55	10	65	0	0	0	0	**17**	18	0	35	**10**	0	**47**	**57**	**157**
07:45 AM	0	34	13	47	0	0	0	0	11	11	0	22	6	0	10	16	85
Total Volume	0	208	43	251	0	0	0	0	56	75	0	131	22	0	110	132	514
% App. Total	0	82.9	17.1		0	0	0		42.7	57.3	0		16.7	0	83.3		
PHF	.000	.788	.768	.784	.000	.000	.000	.000	.824	.750	.000	.819	.550	.000	.585	.579	.818

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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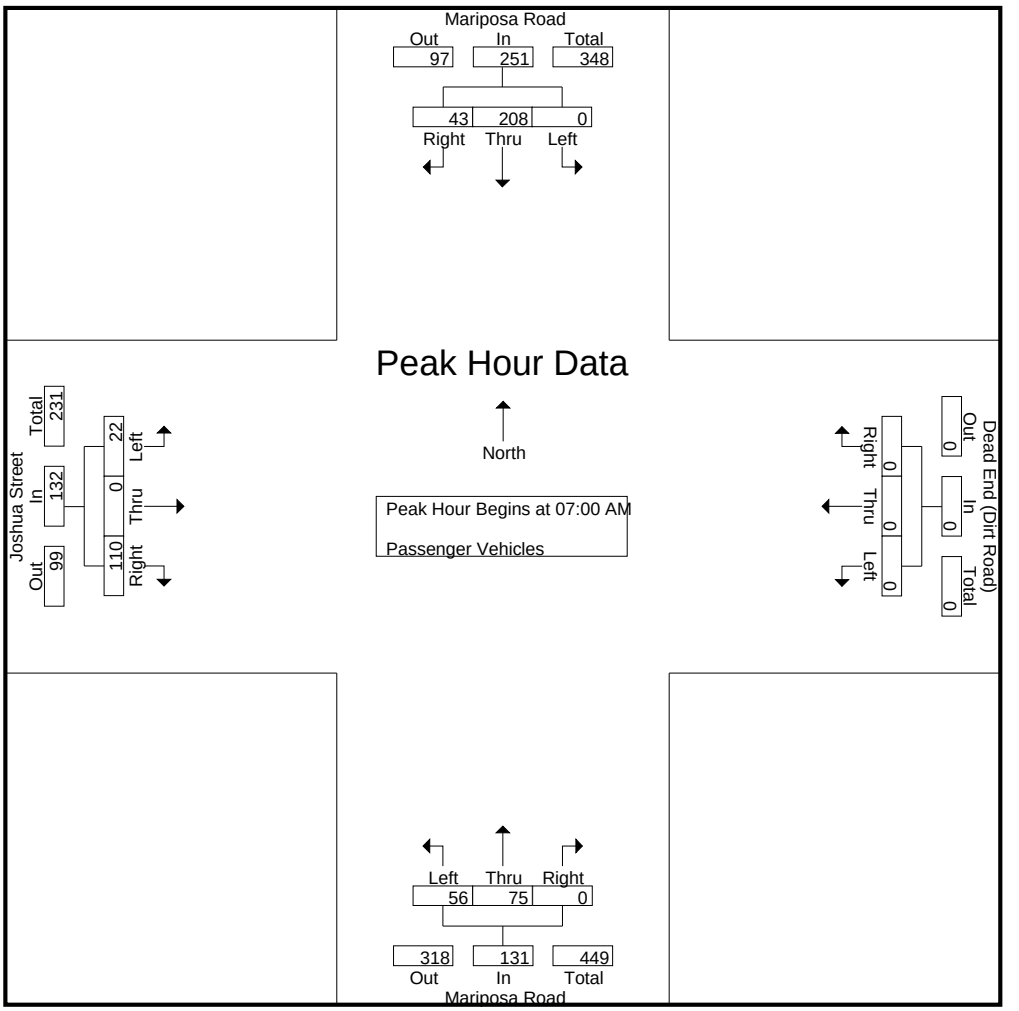

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	**66**	**14**	**80**	0	0	0	0	13	21	0	34	5	0	30	35
+15 mins.	0	53	6	59	0	0	0	0	15	**25**	0	**40**	1	0	23	24
+30 mins.	0	55	10	65	0	0	0	0	**17**	18	0	35	**10**	0	**47**	**57**
+45 mins.	0	34	13	47	0	0	0	0	11	11	0	22	6	0	10	16
Total Volume	0	208	43	251	0	0	0	0	56	75	0	131	22	0	110	132
% App. Total	0	82.9	17.1		0	0	0		42.7	57.3	0		16.7	0	83.3	
PHF	.000	.788	.768	.784	.000	.000	.000	.000	.824	.750	.000	.819	.550	.000	.585	.579

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City of Hesperia
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E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- Large 2 Axle Vehicles

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:30 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	1	1	4
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	2	5	0	0	0	0	0	1	0	1	1	0	1	2	8
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3	3	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:45 AM	0	0	1	1	0	0	0	0	2	0	0	2	0	0	0	0	3
Total	0	1	1	2	0	0	0	0	2	1	0	3	0	0	3	3	8
Grand Total	0	4	3	7	0	0	0	0	2	2	0	4	1	0	4	5	16
Apprch %	0	57.1	42.9		0	0	0		50	50	0		20	0	80		
Total %	0	25	18.8	43.8	0	0	0	0	12.5	12.5	0	25	6.2	0	25	31.2	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**1**	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
07:30 AM	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	**1**	1	**4**
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	3	2	5	0	0	0	0	0	1	0	1	1	0	1	2	8
% App. Total	0	60	40		0	0	0		0	100	0		50	0	50		
PHF	.000	.250	.500	.417	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.250	.500	.500

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City of Hesperia
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Weather: Clear

File Name : 04_HES_Mari_Jos AM
Site Code : 05125030
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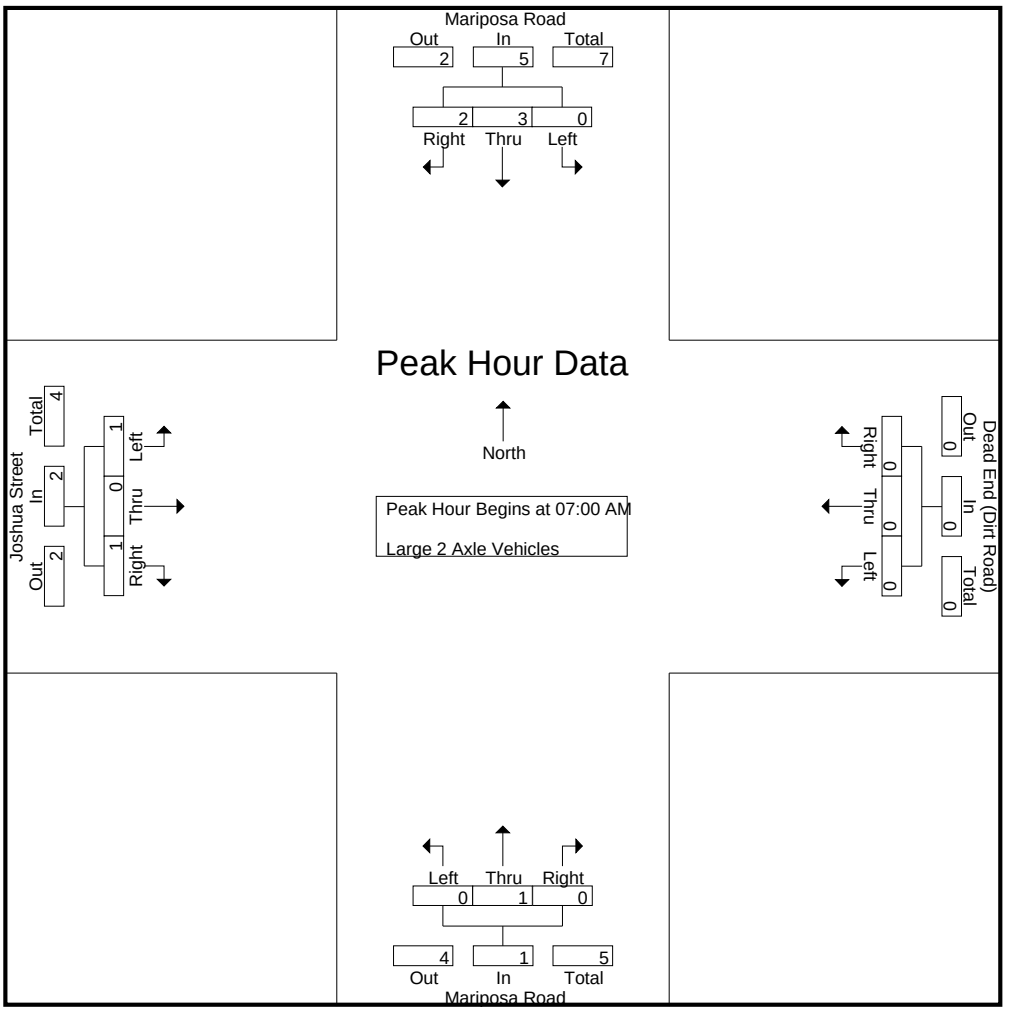

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	**1**	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+30 mins.	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	**1**	1
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	2	5	0	0	0	0	0	1	0	1	1	0	1	2
% App. Total	0	60	40		0	0	0		0	100	0		50	0	50	
PHF	.000	.250	.500	.417	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.250	.500

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File Name : 04_HES_Mari_Jos AM
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Groups Printed- 3 Axle Vehicles

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	1	2	0	0	0	0	1	0	0	1	1	0	0	1	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	0	0	0	1	0	0	1	2	0	0	2	5
08:00 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	0	0	0	1	0	0	1	0	0	0	0	3
Grand Total	0	2	2	4	0	0	0	0	2	0	0	2	2	0	0	2	8
Apprch %	0	50	50		0	0	0		100	0	0		100	0	0		
Total %	0	25	25	50	0	0	0	0	25	0	0	25	25	0	0	25	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	**1**	**1**	**2**	0	0	0	0	**1**	0	0	**1**	**1**	0	0	**1**	**4**
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	1	0	0	1	2	0	0	2	5
% App. Total	0	50	50		0	0	0		100	0	0		100	0	0		
PHF	.000	.250	.250	.250	.000	.000	.000	.000	.250	.000	.000	.250	.500	.000	.000	.500	.313

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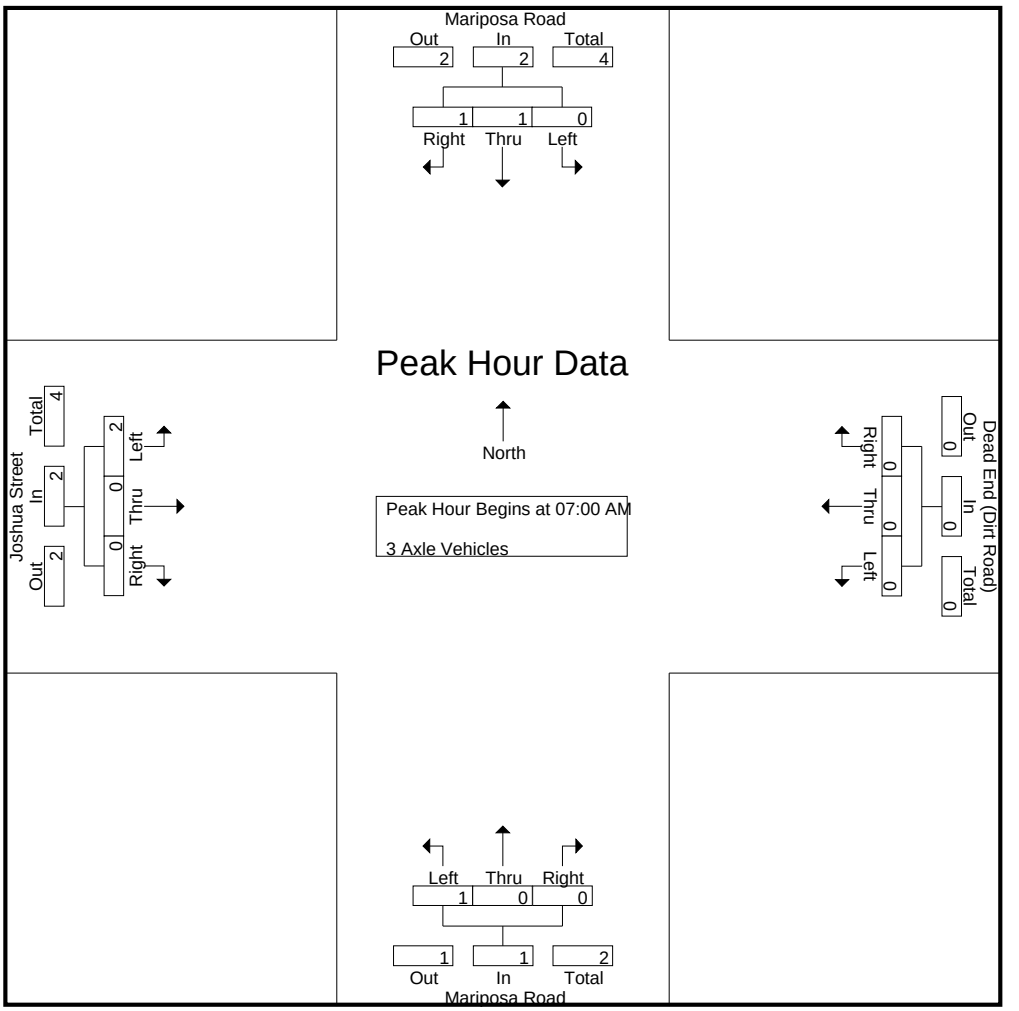

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	**1**	**2**	0	0	0	0	**1**	0	0	**1**	**1**	0	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	1	0	0	1	2	0	0	2
% App. Total	0	50	50		0	0	0		100	0	0		100	0	0	
PHF	.000	.250	.250	.250	.000	.000	.000	.000	.250	.000	.000	.250	.500	.000	.000	.500

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City of Hesperia
N/S: Mariposa Road
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Weather: Clear

File Name : 04_HES_Mari_Jos AM
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Groups Printed- 4+ Axle Trucks

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
07:30 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	2	0	0	0	0	0	0	0	0	1	0	3	4	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	1	0	0	0	0	2	0	0	2	1	0	0	1	4
Grand Total	0	0	3	3	0	0	0	0	2	0	0	2	2	0	3	5	10
Apprch %	0	0	100		0	0	0		100	0	0		40	0	60		
Total %	0	0	30	30	0	0	0	0	20	0	0	20	20	0	30	50	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	**2**	2
07:30 AM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	**2**	2	**4**
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	0	0	0	0	0	0	0	1	0	3	4	6
% App. Total	0	0	100		0	0	0		0	0	0		25	0	75		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.375	.500	.375

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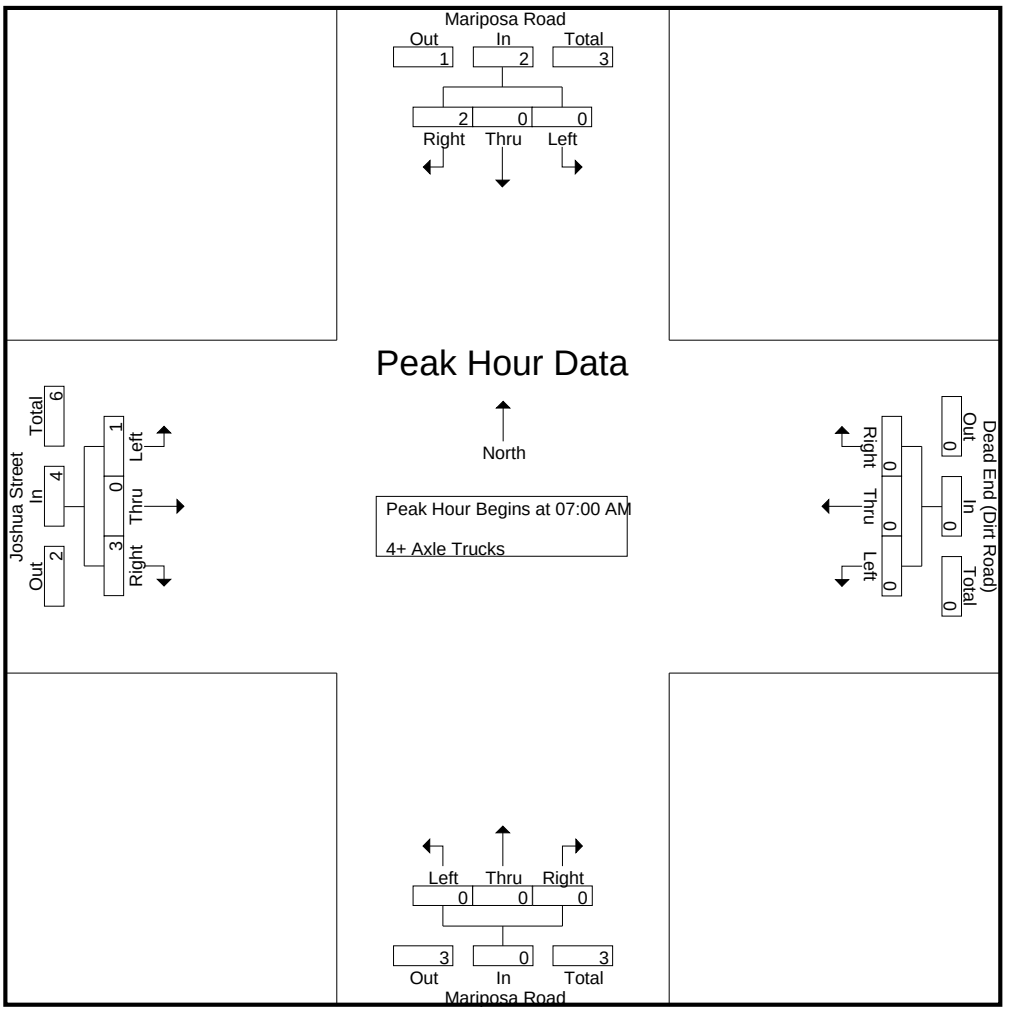

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	**2**
+30 mins.	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	**2**	2
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	0	0	0	0	0	0	0	1	0	3	4
% App. Total	0	0	100		0	0	0		0	0	0		25	0	75	
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.375	.500

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City of Hesperia
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File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	19	9	28	0	0	0	0	13	30	0	43	9	0	9	18	89
04:15 PM	0	23	7	30	0	0	0	0	13	22	0	35	10	0	9	19	84
04:30 PM	0	27	5	32	0	0	0	0	10	22	0	32	8	0	10	18	82
04:45 PM	0	21	4	25	0	0	0	0	10	17	0	27	11	0	4	15	67
Total	0	90	25	115	0	0	0	0	46	91	0	137	38	0	32	70	322
05:00 PM	0	22	9	31	0	0	0	0	6	16	0	22	19	0	8	27	80
05:15 PM	0	13	11	24	0	0	0	0	8	22	0	30	8	0	4	12	66
05:30 PM	0	14	6	20	0	0	0	0	7	26	0	33	12	0	7	19	72
05:45 PM	0	17	9	26	0	0	0	0	1	20	0	21	7	0	9	16	63
Total	0	66	35	101	0	0	0	0	22	84	0	106	46	0	28	74	281
Grand Total	0	156	60	216	0	0	0	0	68	175	0	243	84	0	60	144	603
Apprch %	0	72.2	27.8		0	0	0		28	72	0		58.3	0	41.7		
Total %	0	25.9	10	35.8	0	0	0	0	11.3	29	0	40.3	13.9	0	10	23.9	
Passenger Vehicles	0	151	59	210	0	0	0	0	66	174	0	240	82	0	60	142	592
% Passenger Vehicles	0	96.8	98.3	97.2	0	0	0	0	97.1	99.4	0	98.8	97.6	0	100	98.6	98.2
Large 2 Axle Vehicles	0	3	1	4	0	0	0	0	2	1	0	3	0	0	0	0	7
% Large 2 Axle Vehicles	0	1.9	1.7	1.9	0	0	0	0	2.9	0.6	0	1.2	0	0	0	0	1.2
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% 3 Axle Vehicles	0	1.3	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.3
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2.4	0	0	1.4	0.3

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	19	**9**	28	0	0	0	0	**13**	**30**	0	**43**	9	0	9	18	**89**
04:15 PM	0	23	7	30	0	0	0	0	13	22	0	35	10	0	9	**19**	84
04:30 PM	0	**27**	5	**32**	0	0	0	0	10	22	0	32	8	0	**10**	18	82
04:45 PM	0	21	4	25	0	0	0	0	10	17	0	27	**11**	0	4	15	67
Total Volume	0	90	25	115	0	0	0	0	46	91	0	137	38	0	32	70	322
% App. Total	0	78.3	21.7		0	0	0		33.6	66.4	0		54.3	0	45.7		
PHF	.000	.833	.694	.898	.000	.000	.000	.000	.885	.758	.000	.797	.864	.000	.800	.921	.904

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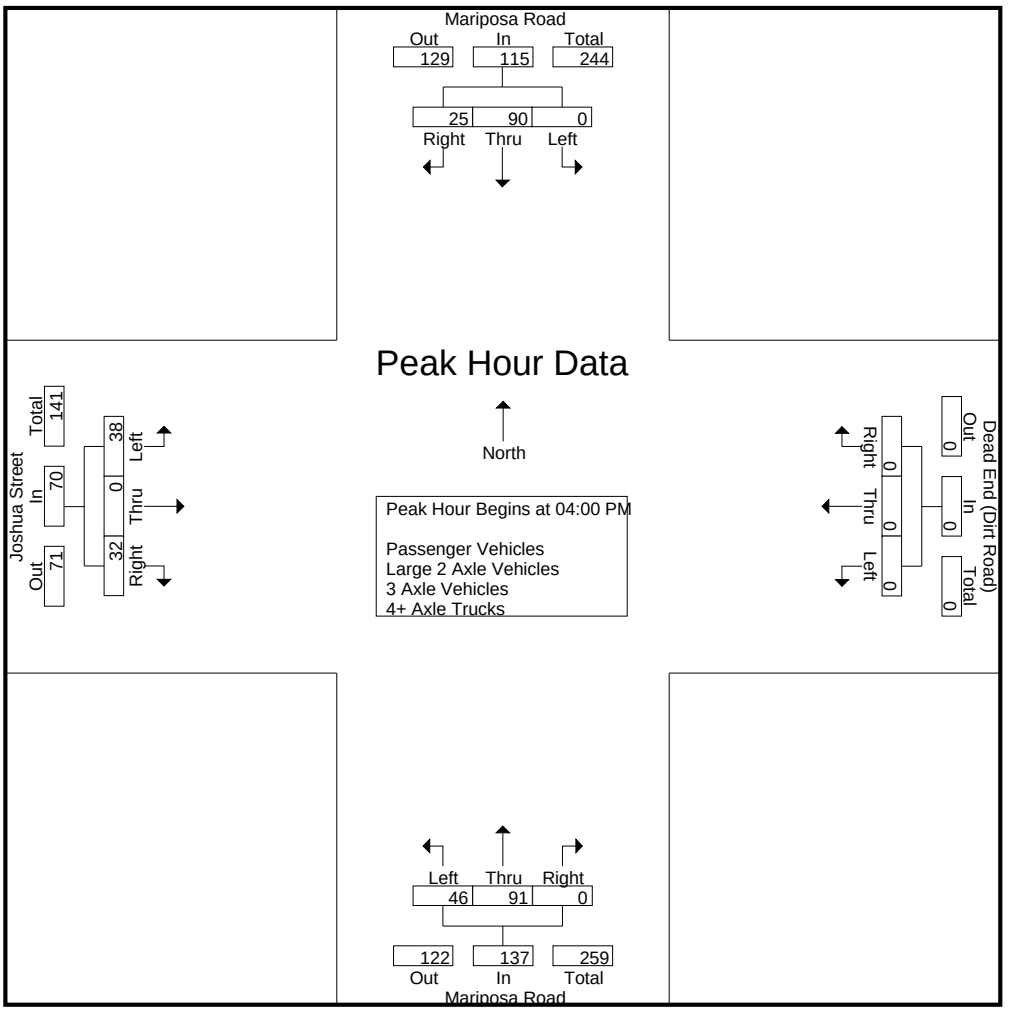

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:00 PM				04:15 PM			
+0 mins.	0	23	7	30	0	0	0	0	**13**	**30**	0	**43**	10	0	9	19
+15 mins.	0	**27**	5	**32**	0	0	0	0	13	22	0	35	8	0	**10**	18
+30 mins.	0	21	4	25	0	0	0	0	10	22	0	32	11	0	4	15
+45 mins.	0	22	**9**	31	0	0	0	0	10	17	0	27	**19**	0	8	**27**
Total Volume	0	93	25	118	0	0	0	0	46	91	0	137	48	0	31	79
% App. Total	0	78.8	21.2		0	0	0		33.6	66.4	0		60.8	0	39.2	
PHF	.000	.861	.694	.922	.000	.000	.000	.000	.885	.758	.000	.797	.632	.000	.775	.731

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	19	9	28	0	0	0	0	13	30	0	43	8	0	9	17	88
04:15 PM	0	23	7	30	0	0	0	0	13	21	0	34	9	0	9	18	82
04:30 PM	0	25	5	30	0	0	0	0	9	22	0	31	8	0	10	18	79
04:45 PM	0	21	4	25	0	0	0	0	9	17	0	26	11	0	4	15	66
Total	0	88	25	113	0	0	0	0	44	90	0	134	36	0	32	68	315
05:00 PM	0	21	9	30	0	0	0	0	6	16	0	22	19	0	8	27	79
05:15 PM	0	13	11	24	0	0	0	0	8	22	0	30	8	0	4	12	66
05:30 PM	0	13	6	19	0	0	0	0	7	26	0	33	12	0	7	19	71
05:45 PM	0	16	8	24	0	0	0	0	1	20	0	21	7	0	9	16	61
Total	0	63	34	97	0	0	0	0	22	84	0	106	46	0	28	74	277
Grand Total	0	151	59	210	0	0	0	0	66	174	0	240	82	0	60	142	592
Apprch %	0	71.9	28.1		0	0	0		27.5	72.5	0		57.7	0	42.3		
Total %	0	25.5	10	35.5	0	0	0	0	11.1	29.4	0	40.5	13.9	0	10.1	24	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	19	**9**	28	0	0	0	0	**13**	**30**	0	**43**	8	0	9	17	**88**
04:15 PM	0	23	7	**30**	0	0	0	0	13	21	0	34	9	0	9	**18**	82
04:30 PM	0	**25**	5	30	0	0	0	0	9	22	0	31	8	0	**10**	18	79
04:45 PM	0	21	4	25	0	0	0	0	9	17	0	26	**11**	0	4	15	66
Total Volume	0	88	25	113	0	0	0	0	44	90	0	134	36	0	32	68	315
% App. Total	0	77.9	22.1		0	0	0		32.8	67.2	0		52.9	0	47.1		
PHF	.000	.880	.694	.942	.000	.000	.000	.000	.846	.750	.000	.779	.818	.000	.800	.944	.895

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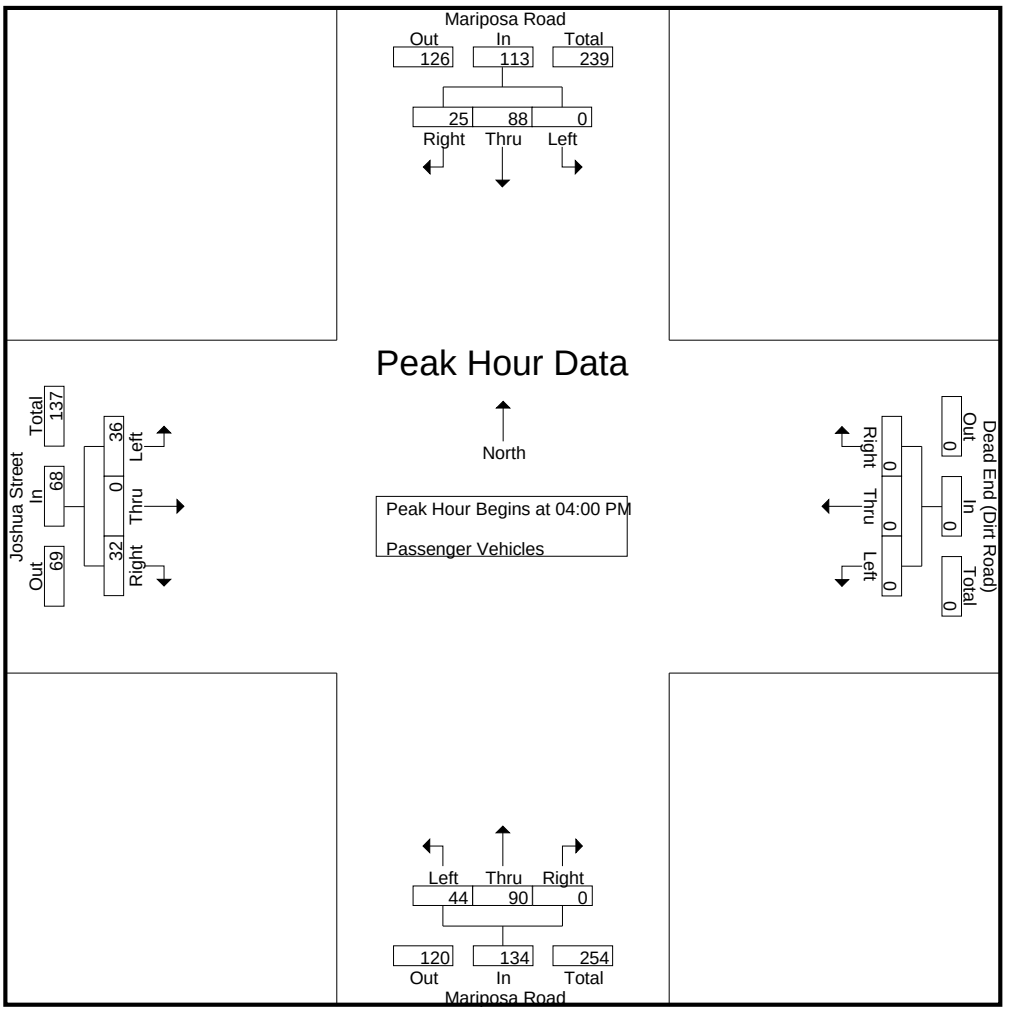
City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	19	**9**	28	0	0	0	0	**13**	**30**	0	**43**	8	0	9	17
+15 mins.	0	23	7	**30**	0	0	0	0	13	21	0	34	9	0	9	**18**
+30 mins.	0	**25**	5	30	0	0	0	0	9	22	0	31	8	0	**10**	18
+45 mins.	0	21	4	25	0	0	0	0	9	17	0	26	**11**	0	4	15
Total Volume	0	88	25	113	0	0	0	0	44	90	0	134	36	0	32	68
% App. Total	0	77.9	22.1		0	0	0		32.8	67.2	0		52.9	0	47.1	
PHF	.000	.880	.694	.942	.000	.000	.000	.000	.846	.750	.000	.779	.818	.000	.800	.944

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:30 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	2	1	0	3	0	0	0	0	4
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	3	1	4	0	0	0	0	2	1	0	3	0	0	0	0	7
Apprch %	0	75	25		0	0	0		66.7	33.3	0		0	0	0		
Total %	0	42.9	14.3	57.1	0	0	0	0	28.6	14.3	0	42.9	0	0	0	0	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
04:30 PM	0	**1**	0	**1**	0	0	0	0	**1**	0	0	1	0	0	0	0	**2**
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	2	1	0	3	0	0	0	0	4
% App. Total	0	100	0		0	0	0		66.7	33.3	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.500	.250	.000	.750	.000	.000	.000	.000	.500

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
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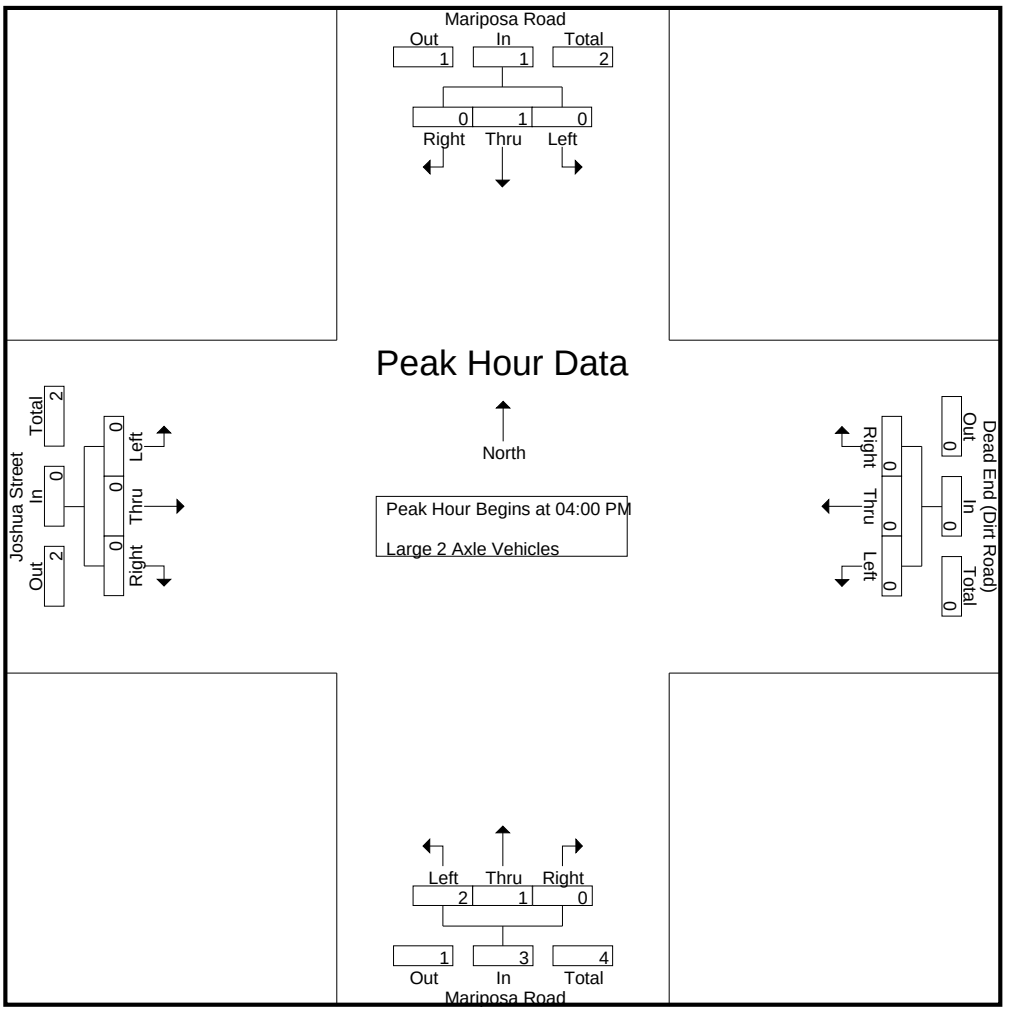

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	0	0	**1**	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	2	1	0	3	0	0	0	0
% App. Total	0	100	0		0	0	0		66.7	33.3	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.500	.250	.000	.750	.000	.000	.000	.000

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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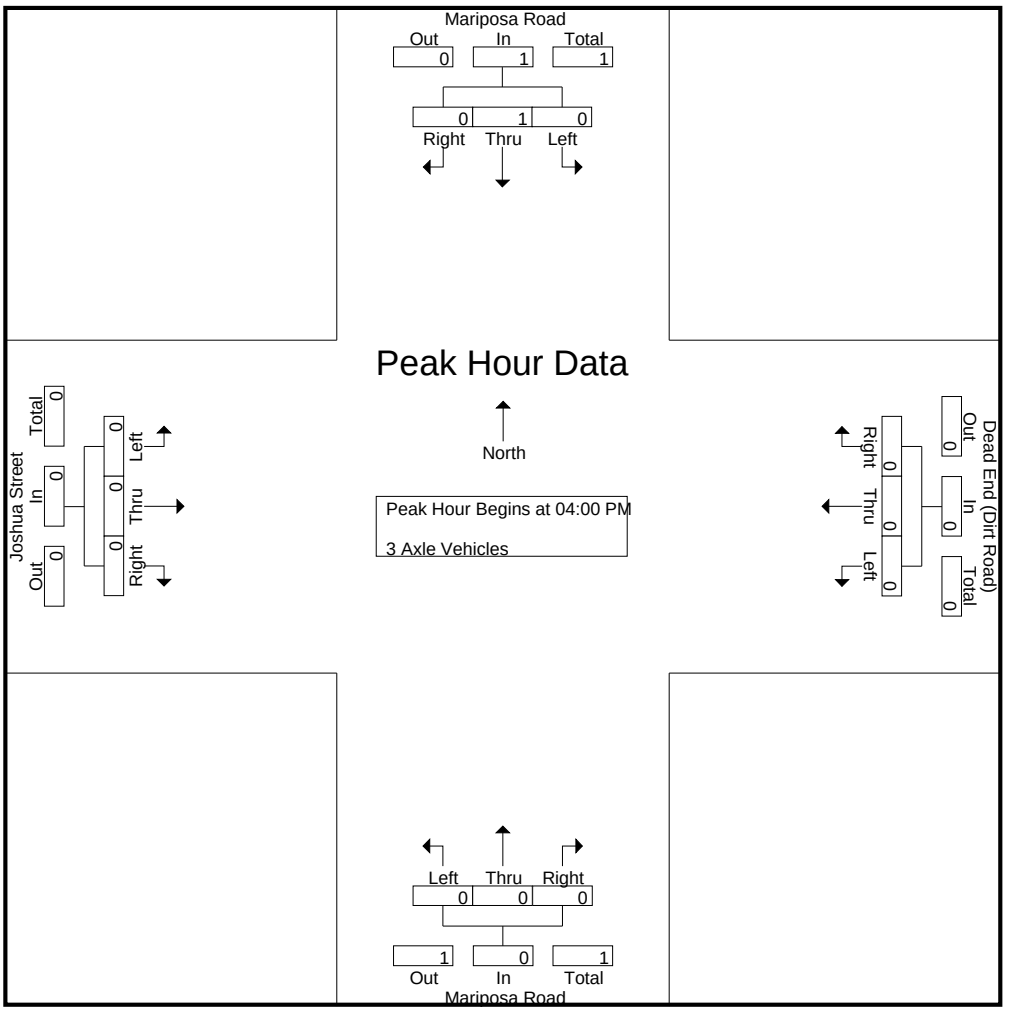
City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	

	Mariposa Road Southbound				Dead End (Dirt Road) Westbound				Mariposa Road Northbound				Joshua Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.500

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City of Hesperia
N/S: Mariposa Road
E/W: Joshua Street
Weather: Clear

File Name : 04_HES_Mari_Jos PM
Site Code : 05125030
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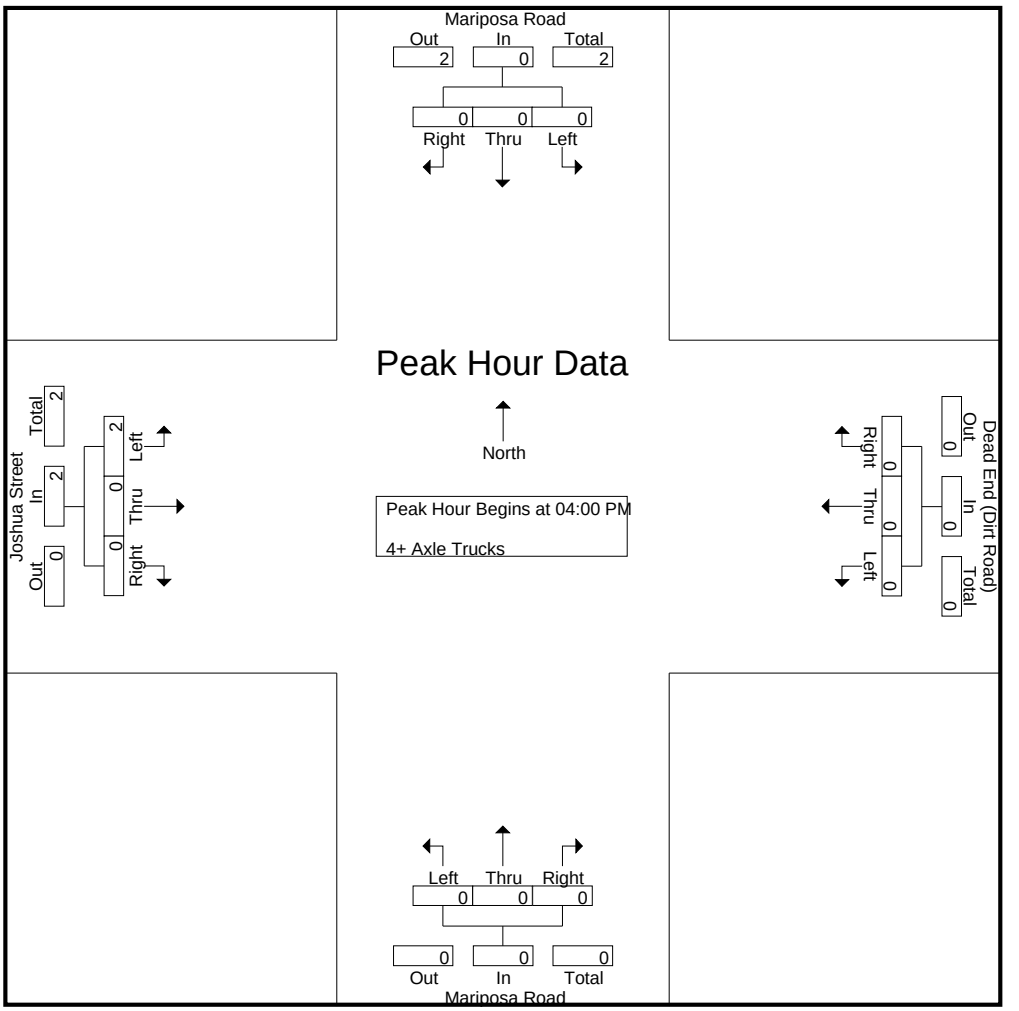

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500

Location: Hesperia
N/S: Mariposa Road
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg Mariposa Road	East Leg Joshua Street	South Leg Mariposa Road	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Mariposa Road	East Leg Joshua Street	South Leg Mariposa Road	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: Mariposa Road
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound Mariposa Road			Westbound Joshua Street			Northbound Mariposa Road			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Mariposa Road			Westbound Joshua Street			Northbound Mariposa Road			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	11	1	12	100	5	0	105	0	0	0	0	0	0	116	116	233
07:15 AM	2	9	3	14	73	7	0	80	0	0	0	0	0	3	110	113	207
07:30 AM	3	6	0	9	126	8	0	134	0	0	0	0	0	4	90	94	237
07:45 AM	3	6	1	10	113	4	0	117	0	0	0	0	0	2	78	80	207
Total	8	32	5	45	412	24	0	436	0	0	0	0	0	9	394	403	884
08:00 AM	3	12	1	16	59	3	0	62	0	0	0	0	0	2	41	43	121
08:15 AM	3	12	0	15	64	10	0	74	0	0	0	0	0	2	46	48	137
08:30 AM	1	4	0	5	52	6	0	58	0	0	0	0	0	1	36	37	100
08:45 AM	6	1	1	8	25	8	0	33	0	0	0	0	0	1	27	28	69
Total	13	29	2	44	200	27	0	227	0	0	0	0	0	6	150	156	427
Grand Total	21	61	7	89	612	51	0	663	0	0	0	0	0	15	544	559	1311
Apprch %	23.6	68.5	7.9		92.3	7.7	0		0	0	0		0	2.7	97.3		
Total %	1.6	4.7	0.5	6.8	46.7	3.9	0	50.6	0	0	0	0	0	1.1	41.5	42.6	
Passenger Vehicles	17	54	5	76	588	47	0	635	0	0	0	0	0	12	517	529	1240
% Passenger Vehicles	81	88.5	71.4	85.4	96.1	92.2	0	95.8	0	0	0	0	0	80	95	94.6	94.6
Large 2 Axle Vehicles	2	1	2	5	10	2	0	12	0	0	0	0	0	3	9	12	29
% Large 2 Axle Vehicles	9.5	1.6	28.6	5.6	1.6	3.9	0	1.8	0	0	0	0	0	20	1.7	2.1	2.2
3 Axle Vehicles	0	2	0	2	5	1	0	6	0	0	0	0	0	0	0	0	8
% 3 Axle Vehicles	0	3.3	0	2.2	0.8	2	0	0.9	0	0	0	0	0	0	0	0	0.6
4+ Axle Trucks	2	4	0	6	9	1	0	10	0	0	0	0	0	0	18	18	34
% 4+ Axle Trucks	9.5	6.6	0	6.7	1.5	2	0	1.5	0	0	0	0	0	0	3.3	3.2	2.6

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**11**	1	12	100	5	0	105	0	0	0	0	0	0	**116**	**116**	233
07:15 AM	2	9	**3**	**14**	73	7	0	80	0	0	0	0	0	3	110	113	207
07:30 AM	**3**	6	0	9	**126**	**8**	0	**134**	0	0	0	0	0	**4**	90	94	**237**
07:45 AM	3	6	1	10	113	4	0	117	0	0	0	0	0	2	78	80	207
Total Volume	8	32	5	45	412	24	0	436	0	0	0	0	0	9	394	403	884
% App. Total	17.8	71.1	11.1		94.5	5.5	0		0	0	0		0	2.2	97.8		
PHF	.667	.727	.417	.804	.817	.750	.000	.813	.000	.000	.000	.000	.000	.563	.849	.869	.932

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
Start Date : 2/11/2025
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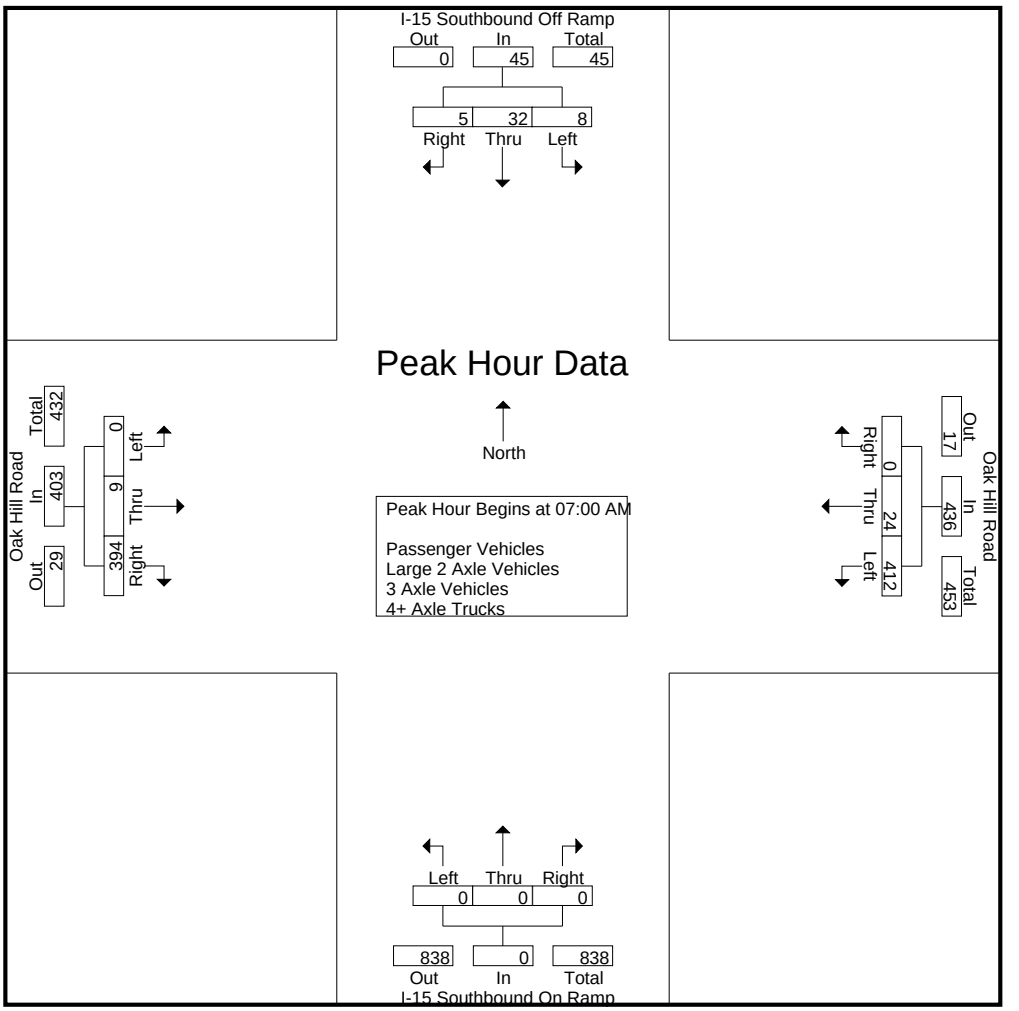

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**3**	6	0	9	100	5	0	105	0	0	0	0	0	0	**116**	**116**
+15 mins.	3	6	**1**	10	73	7	0	80	0	0	0	0	0	3	110	113
+30 mins.	3	**12**	1	**16**	**126**	**8**	0	**134**	0	0	0	0	0	**4**	90	94
+45 mins.	3	12	0	15	113	4	0	117	0	0	0	0	0	2	78	80
Total Volume	12	36	2	50	412	24	0	436	0	0	0	0	0	9	394	403
% App. Total	24	72	4		94.5	5.5	0		0	0	0		0	2.2	97.8	
PHF	1.000	.750	.500	.781	.817	.750	.000	.813	.000	.000	.000	.000	.000	.563	.849	.869

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	10	1	11	96	4	0	100	0	0	0	0	0	0	112	112	223
07:15 AM	2	8	1	11	70	6	0	76	0	0	0	0	0	1	103	104	191
07:30 AM	3	6	0	9	121	8	0	129	0	0	0	0	0	3	87	90	228
07:45 AM	1	5	1	7	110	4	0	114	0	0	0	0	0	2	76	78	199
Total	6	29	3	38	397	22	0	419	0	0	0	0	0	6	378	384	841
08:00 AM	3	11	1	15	56	3	0	59	0	0	0	0	0	2	38	40	114
08:15 AM	3	10	0	13	62	9	0	71	0	0	0	0	0	2	42	44	128
08:30 AM	1	4	0	5	49	5	0	54	0	0	0	0	0	1	33	34	93
08:45 AM	4	0	1	5	24	8	0	32	0	0	0	0	0	1	26	27	64
Total	11	25	2	38	191	25	0	216	0	0	0	0	0	6	139	145	399
Grand Total	17	54	5	76	588	47	0	635	0	0	0	0	0	12	517	529	1240
Apprch %	22.4	71.1	6.6		92.6	7.4	0		0	0	0		0	2.3	97.7		
Total %	1.4	4.4	0.4	6.1	47.4	3.8	0	51.2	0	0	0	0	0	1	41.7	42.7	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**10**	**1**	**11**	96	4	0	100	0	0	0	0	0	0	**112**	**112**	223
07:15 AM	2	8	1	11	70	6	0	76	0	0	0	0	0	1	103	104	191
07:30 AM	**3**	6	0	9	**121**	**8**	0	**129**	0	0	0	0	0	**3**	87	90	**228**
07:45 AM	1	5	1	7	110	4	0	114	0	0	0	0	0	2	76	78	199
Total Volume	6	29	3	38	397	22	0	419	0	0	0	0	0	6	378	384	841
% App. Total	15.8	76.3	7.9		94.7	5.3	0		0	0	0		0	1.6	98.4		
PHF	.500	.725	.750	.864	.820	.688	.000	.812	.000	.000	.000	.000	.000	.500	.844	.857	.922

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
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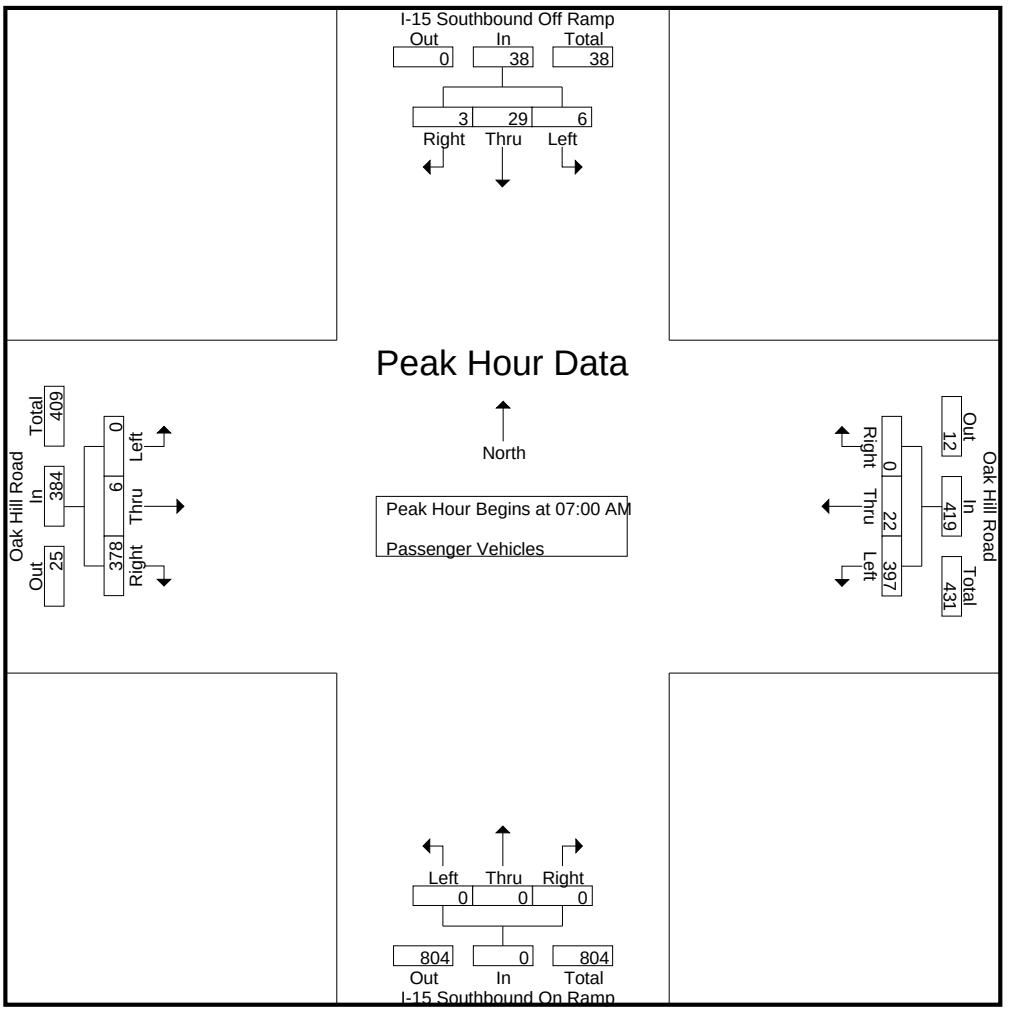

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	**10**	**1**	**11**	96	4	0	100	0	0	0	0	0	0	**112**	**112**
+15 mins.	2	8	1	11	70	6	0	76	0	0	0	0	0	1	103	104
+30 mins.	**3**	6	0	9	**121**	**8**	0	**129**	0	0	0	0	0	**3**	87	90
+45 mins.	1	5	1	7	110	4	0	114	0	0	0	0	0	2	76	78
Total Volume	6	29	3	38	397	22	0	419	0	0	0	0	0	6	378	384
% App. Total	15.8	76.3	7.9		94.7	5.3	0		0	0	0		0	1.6	98.4	
PHF	.500	.725	.750	.864	.820	.688	.000	.812	.000	.000	.000	.000	.000	.500	.844	.857

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
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Groups Printed- Large 2 Axle Vehicles

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	0	0	3
07:15 AM	0	0	2	2	2	0	0	2	0	0	0	0	0	2	3	5	9
07:30 AM	0	0	0	0	3	0	0	3	0	0	0	0	0	1	2	3	6
07:45 AM	1	0	0	1	2	0	0	2	0	0	0	0	0	0	1	1	4
Total	1	1	2	4	8	1	0	9	0	0	0	0	0	3	6	9	22
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
08:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
08:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	2	1	0	3	0	0	0	0	0	0	3	3	7
Grand Total	2	1	2	5	10	2	0	12	0	0	0	0	0	3	9	12	29
Apprch %	40	20	40		83.3	16.7	0		0	0	0		0	25	75		
Total %	6.9	3.4	6.9	17.2	34.5	6.9	0	41.4	0	0	0	0	0	10.3	31	41.4	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**1**	0	1	1	**1**	0	2	0	0	0	0	0	0	0	0	3
07:15 AM	0	0	**2**	**2**	2	0	0	2	0	0	0	0	0	**2**	**3**	**5**	**9**
07:30 AM	0	0	0	0	**3**	0	0	**3**	0	0	0	0	0	1	2	3	6
07:45 AM	**1**	0	0	1	2	0	0	2	0	0	0	0	0	0	1	1	4
Total Volume	1	1	2	4	8	1	0	9	0	0	0	0	0	3	6	9	22
% App. Total	25	25	50		88.9	11.1	0		0	0	0		0	33.3	66.7		
PHF	.250	.250	.250	.500	.667	.250	.000	.750	.000	.000	.000	.000	.000	.375	.500	.450	.611

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

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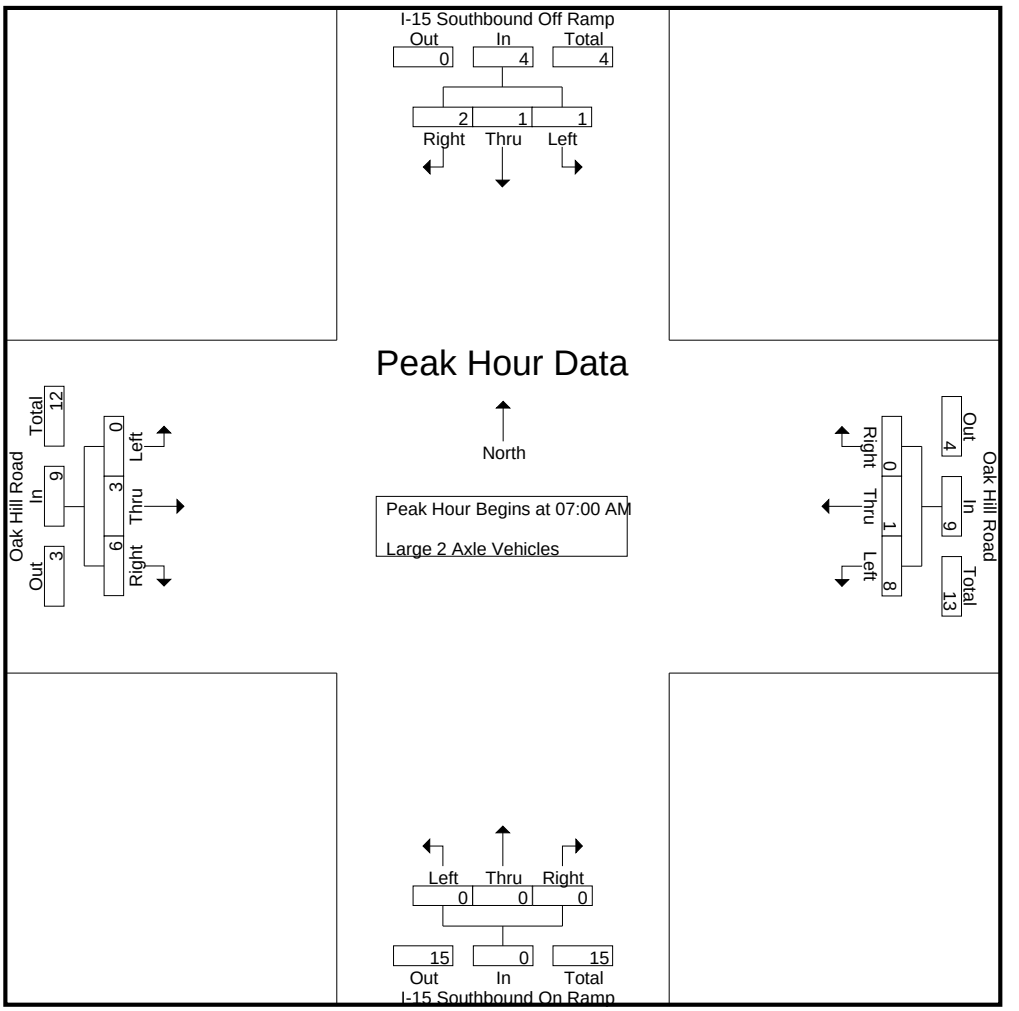

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	**1**	0	1	1	**1**	0	2	0	0	0	0	0	0	0	0
+15 mins.	0	0	**2**	**2**	2	0	0	2	0	0	0	0	0	**2**	**3**	**5**
+30 mins.	0	0	0	0	**3**	0	0	**3**	0	0	0	0	0	1	2	3
+45 mins.	**1**	0	0	1	2	0	0	2	0	0	0	0	0	0	1	1
Total Volume	1	1	2	4	8	1	0	9	0	0	0	0	0	3	6	9
% App. Total	25	25	50		88.9	11.1	0		0	0	0		0	33.3	66.7	
PHF	.250	.250	.250	.500	.667	.250	.000	.750	.000	.000	.000	.000	.000	.375	.500	.450

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
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Groups Printed- 3 Axle Vehicles

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	3	1	0	4	0	0	0	0	0	0	0	0	5
Grand Total	0	2	0	2	5	1	0	6	0	0	0	0	0	0	0	0	8
Apprch %	0	100	0		83.3	16.7	0		0	0	0		0	0	0		
Total %	0	25	0	25	62.5	12.5	0	75	0	0	0	0	0	0	0	0	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
07:15 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
% App. Total	0	100	0		100	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.750

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City of Hesperia
N/S: I-15 Southbound Ramps
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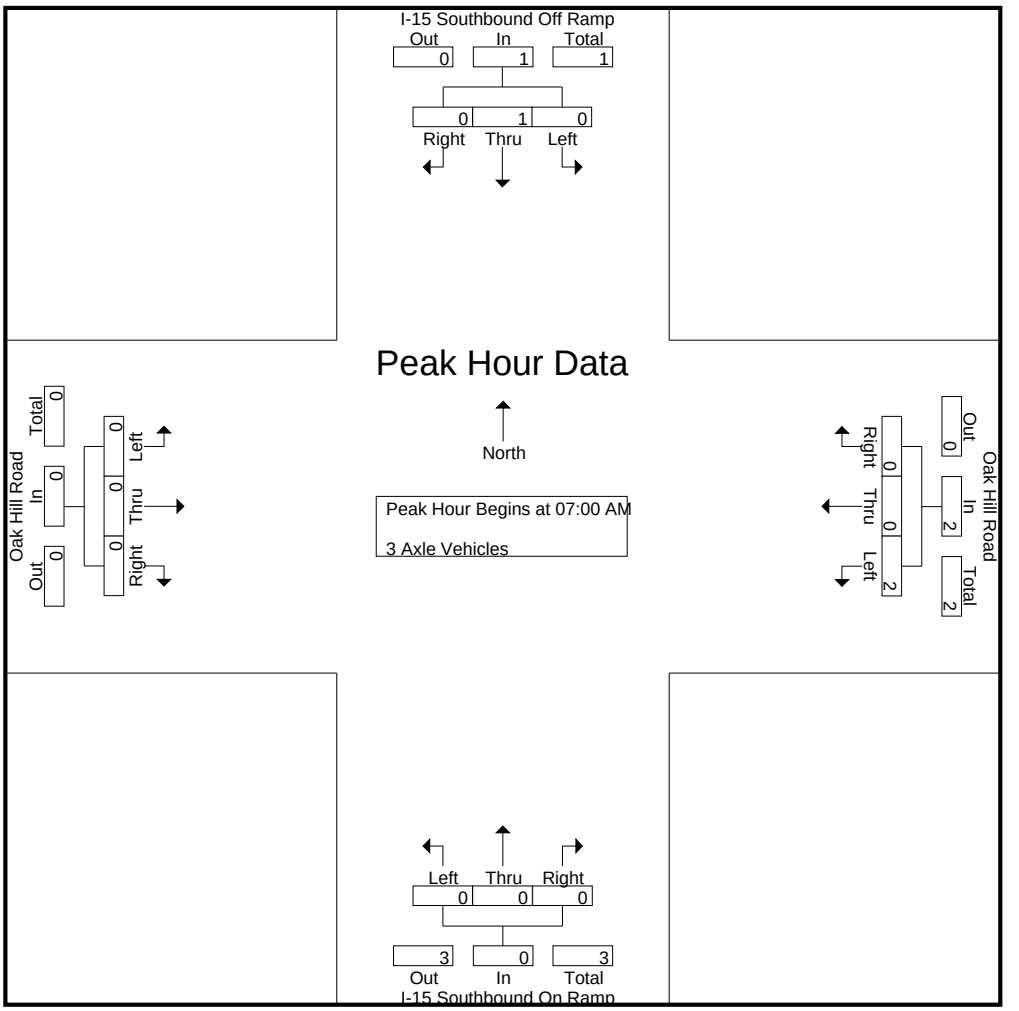

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0
% App. Total	0	100	0		100	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
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Groups Printed- 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	4	6
07:15 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	4	4	6
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
07:45 AM	1	1	0	2	1	0	0	1	0	0	0	0	0	0	1	1	4
Total	1	1	0	2	5	1	0	6	0	0	0	0	0	0	10	10	18
08:00 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	2	2	4
08:15 AM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	2	2	5
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
08:45 AM	1	1	0	2	1	0	0	1	0	0	0	0	0	0	1	1	4
Total	1	3	0	4	4	0	0	4	0	0	0	0	0	0	8	8	16
Grand Total	2	4	0	6	9	1	0	10	0	0	0	0	0	0	18	18	34
Apprch %	33.3	66.7	0		90	10	0		0	0	0		0	0	100		
Total %	5.9	11.8	0	17.6	26.5	2.9	0	29.4	0	0	0	0	0	0	52.9	52.9	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	**6**
07:15 AM	0	0	0	0	1	**1**	0	2	0	0	0	0	0	0	4	4	6
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
07:45 AM	**1**	**1**	0	**2**	1	0	0	1	0	0	0	0	0	0	1	1	4
Total Volume	1	1	0	2	5	1	0	6	0	0	0	0	0	0	10	10	18
% App. Total	50	50	0		83.3	16.7	0		0	0	0		0	0	100		
PHF	.250	.250	.000	.250	.625	.250	.000	.750	.000	.000	.000	.000	.000	.000	.625	.625	.750

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak AM
Site Code : 05125030
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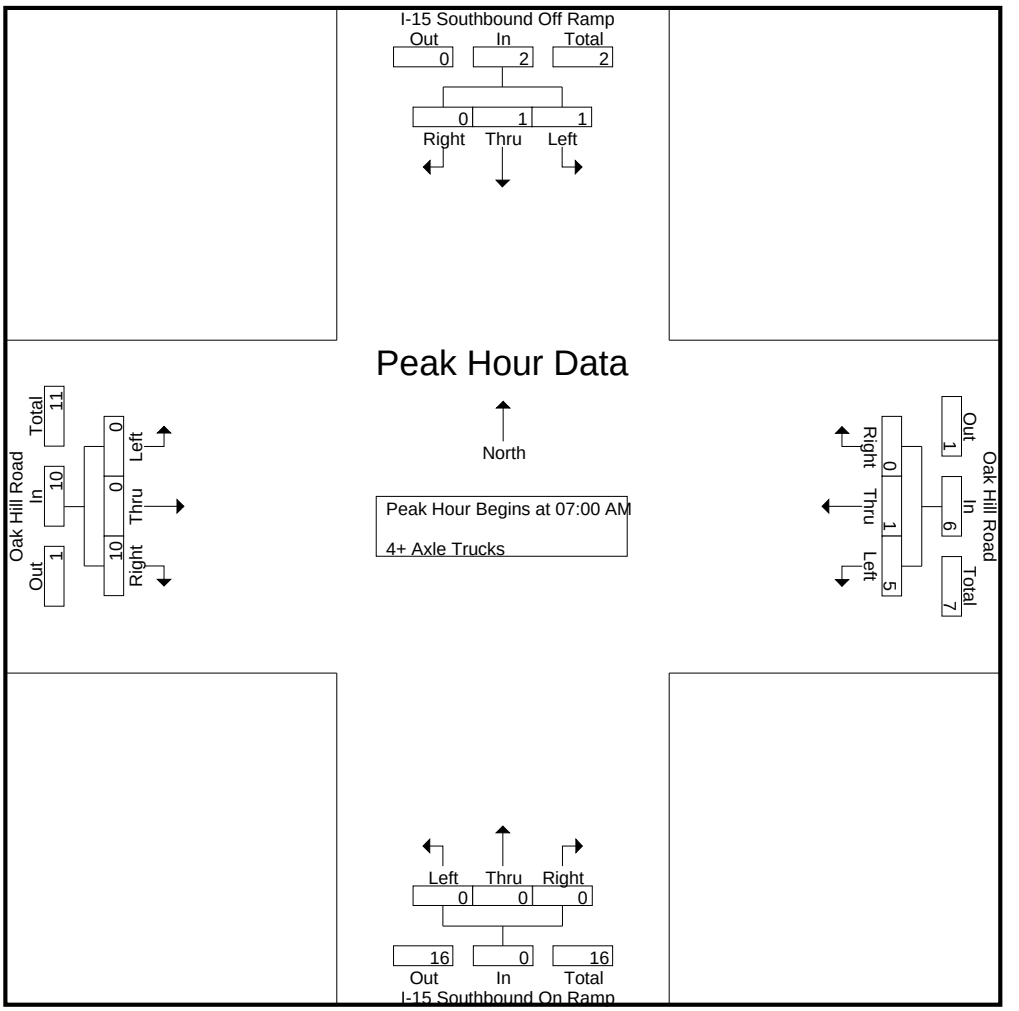

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**
+15 mins.	0	0	0	0	1	**1**	0	2	0	0	0	0	0	0	4	4
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
+45 mins.	**1**	**1**	0	**2**	1	0	0	1	0	0	0	0	0	0	1	1
Total Volume	1	1	0	2	5	1	0	6	0	0	0	0	0	0	10	10
% App. Total	50	50	0		83.3	16.7	0		0	0	0		0	0	100	
PHF	.250	.250	.000	.250	.625	.250	.000	.750	.000	.000	.000	.000	.000	.000	.625	.625

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	23	28	0	51	0	0	0	0	0	2	14	16	68
04:15 PM	1	0	4	5	11	30	0	41	0	0	0	0	0	1	7	8	54
04:30 PM	0	1	0	1	14	22	0	36	0	0	0	0	0	2	8	10	47
04:45 PM	2	0	0	2	15	35	0	50	0	0	0	0	0	1	9	10	62
Total	4	1	4	9	63	115	0	178	0	0	0	0	0	6	38	44	231
05:00 PM	1	0	0	1	24	34	0	58	0	0	0	0	0	2	10	12	71
05:15 PM	1	1	0	2	20	35	0	55	0	0	0	0	0	2	9	11	68
05:30 PM	2	3	0	5	13	24	0	37	0	0	0	0	0	3	11	14	56
05:45 PM	3	0	1	4	18	25	0	43	0	0	0	0	0	1	11	12	59
Total	7	4	1	12	75	118	0	193	0	0	0	0	0	8	41	49	254
Grand Total	11	5	5	21	138	233	0	371	0	0	0	0	0	14	79	93	485
Apprch %	52.4	23.8	23.8		37.2	62.8	0		0	0	0		0	15.1	84.9		
Total %	2.3	1	1	4.3	28.5	48	0	76.5	0	0	0	0	0	2.9	16.3	19.2	
Passenger Vehicles	10	2	5	17	134	226	0	360	0	0	0	0	0	12	76	88	465
% Passenger Vehicles	90.9	40	100	81	97.1	97	0	97	0	0	0	0	0	85.7	96.2	94.6	95.9
Large 2 Axle Vehicles	0	1	0	1	2	2	0	4	0	0	0	0	0	1	2	3	8
% Large 2 Axle Vehicles	0	20	0	4.8	1.4	0.9	0	1.1	0	0	0	0	0	7.1	2.5	3.2	1.6
3 Axle Vehicles	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% 3 Axle Vehicles	0	0	0	0	0	0.4	0	0.3	0	0	0	0	0	7.1	0	1.1	0.4
4+ Axle Trucks	1	2	0	3	2	4	0	6	0	0	0	0	0	0	1	1	10
% 4+ Axle Trucks	9.1	40	0	14.3	1.4	1.7	0	1.6	0	0	0	0	0	0	1.3	1.1	2.1

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	0	0	2	15	**35**	0	50	0	0	0	0	0	1	9	10	62
05:00 PM	1	0	0	1	**24**	34	0	**58**	0	0	0	0	0	2	10	12	**71**
05:15 PM	1	1	0	2	20	35	0	55	0	0	0	0	0	2	9	11	68
05:30 PM	2	**3**	0	**5**	13	24	0	37	0	0	0	0	0	**3**	**11**	**14**	56
Total Volume	6	4	0	10	72	128	0	200	0	0	0	0	0	8	39	47	257
% App. Total	60	40	0		36	64	0		0	0	0		0	17	83		
PHF	.750	.333	.000	.500	.750	.914	.000	.862	.000	.000	.000	.000	.000	.667	.886	.839	.905

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
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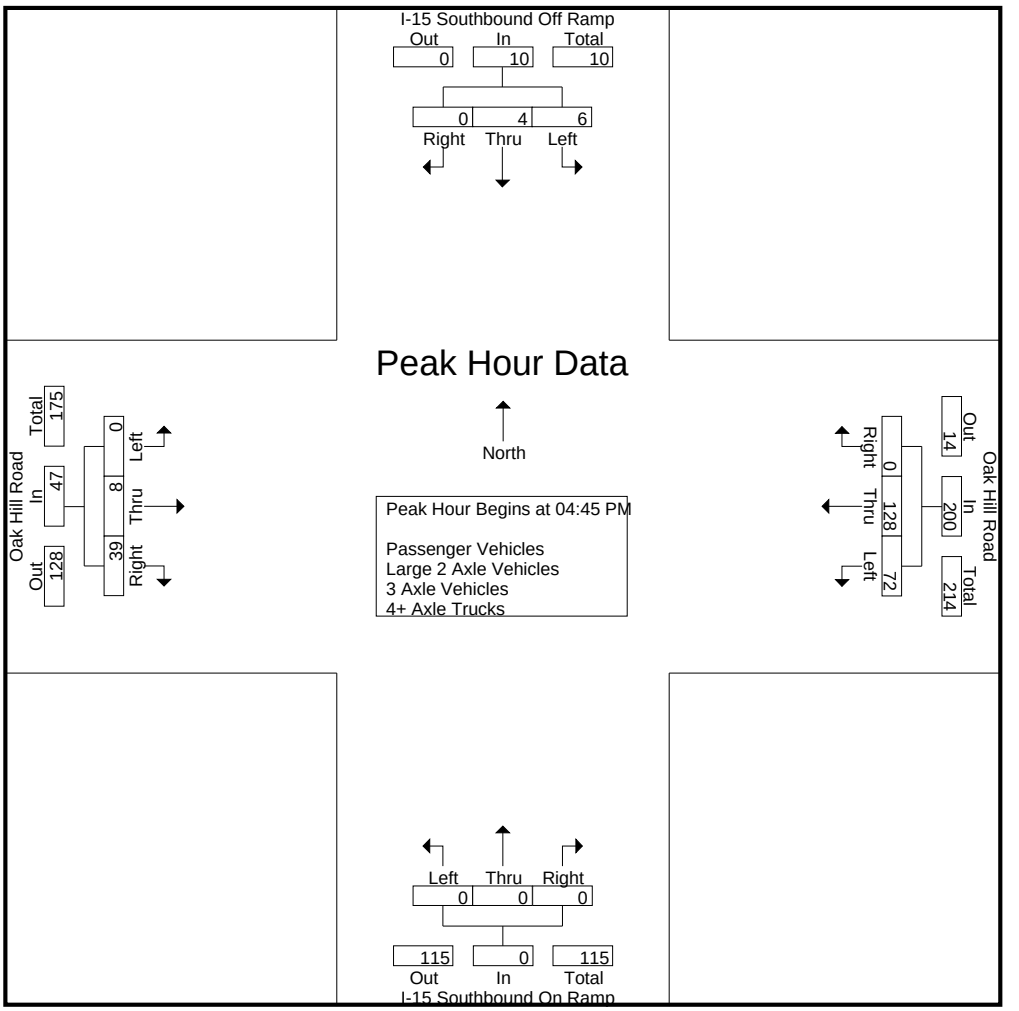

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:00 PM				05:00 PM			
+0 mins.	1	0	0	1	15	**35**	0	50	0	0	0	0	0	2	10	12
+15 mins.	1	1	0	2	**24**	34	0	**58**	0	0	0	0	0	2	9	11
+30 mins.	2	**3**	0	**5**	20	35	0	55	0	0	0	0	0	**3**	**11**	**14**
+45 mins.	**3**	0	**1**	4	13	24	0	37	0	0	0	0	0	1	11	12
Total Volume	7	4	1	12	72	128	0	200	0	0	0	0	0	8	41	49
% App. Total	58.3	33.3	8.3		36	64	0		0	0	0		0	16.3	83.7	
PHF	.583	.333	.250	.600	.750	.914	.000	.862	.000	.000	.000	.000	.000	.667	.932	.875

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City of Hesperia
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File Name : 05_HES_15S_Oak PM
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Groups Printed- Passenger Vehicles

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	22	27	0	49	0	0	0	0	0	2	13	15	65
04:15 PM	1	0	4	5	11	30	0	41	0	0	0	0	0	0	7	7	53
04:30 PM	0	0	0	0	14	22	0	36	0	0	0	0	0	2	8	10	46
04:45 PM	2	0	0	2	14	35	0	49	0	0	0	0	0	1	8	9	60
Total	4	0	4	8	61	114	0	175	0	0	0	0	0	5	36	41	224
05:00 PM	0	0	0	0	23	32	0	55	0	0	0	0	0	2	10	12	67
05:15 PM	1	1	0	2	19	33	0	52	0	0	0	0	0	2	9	11	65
05:30 PM	2	1	0	3	13	22	0	35	0	0	0	0	0	2	11	13	51
05:45 PM	3	0	1	4	18	25	0	43	0	0	0	0	0	1	10	11	58
Total	6	2	1	9	73	112	0	185	0	0	0	0	0	7	40	47	241
Grand Total	10	2	5	17	134	226	0	360	0	0	0	0	0	12	76	88	465
Apprch %	58.8	11.8	29.4		37.2	62.8	0		0	0	0		0	13.6	86.4		
Total %	2.2	0.4	1.1	3.7	28.8	48.6	0	77.4	0	0	0	0	0	2.6	16.3	18.9	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**2**	0	0	2	14	**35**	0	49	0	0	0	0	0	1	8	9	60
05:00 PM	0	0	0	0	**23**	32	0	**55**	0	0	0	0	0	**2**	10	12	**67**
05:15 PM	1	**1**	0	2	19	33	0	52	0	0	0	0	0	2	9	11	65
05:30 PM	2	1	0	**3**	13	22	0	35	0	0	0	0	0	2	**11**	**13**	51
Total Volume	5	2	0	7	69	122	0	191	0	0	0	0	0	7	38	45	243
% App. Total	71.4	28.6	0		36.1	63.9	0		0	0	0		0	15.6	84.4		
PHF	.625	.500	.000	.583	.750	.871	.000	.868	.000	.000	.000	.000	.000	.875	.864	.865	.907

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
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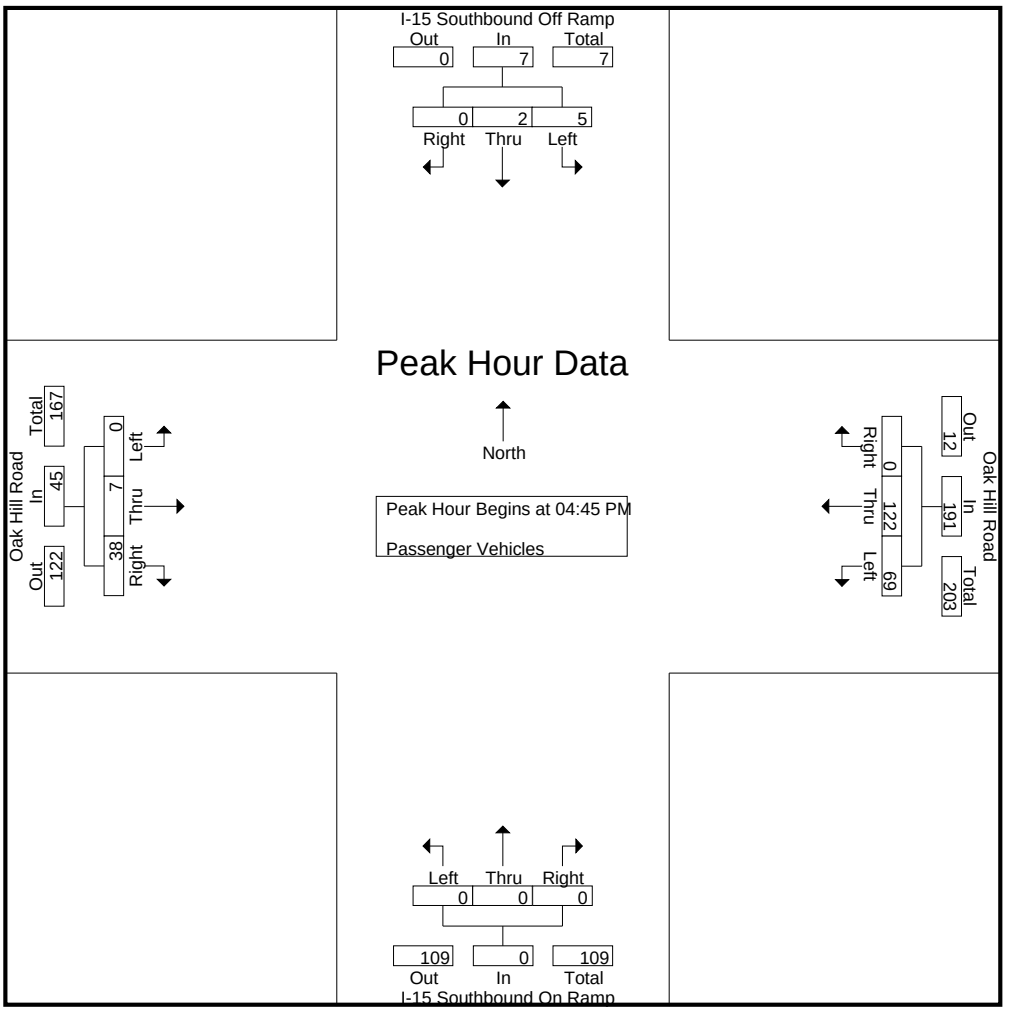

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	**2**	0	0	2	14	**35**	0	49	0	0	0	0	0	1	8	9
+15 mins.	0	0	0	0	**23**	32	0	**55**	0	0	0	0	0	**2**	10	12
+30 mins.	1	**1**	0	2	19	33	0	52	0	0	0	0	0	2	9	11
+45 mins.	2	1	0	**3**	13	22	0	35	0	0	0	0	0	2	**11**	**13**
Total Volume	5	2	0	7	69	122	0	191	0	0	0	0	0	7	38	45
% App. Total	71.4	28.6	0		36.1	63.9	0		0	0	0		0	15.6	84.4	
PHF	.625	.500	.000	.583	.750	.871	.000	.868	.000	.000	.000	.000	.000	.875	.864	.865

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
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Groups Printed- Large 2 Axle Vehicles

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	1	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	2	4
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	1	1	0	2	0	0	0	0	0	1	0	1	4
Grand Total	0	1	0	1	2	2	0	4	0	0	0	0	0	1	2	3	8
Apprch %	0	100	0		50	50	0		0	0	0		0	33.3	66.7		
Total %	0	12.5	0	12.5	25	25	0	50	0	0	0	0	0	12.5	25	37.5	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1
05:00 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	**1**	0	**1**	0	**1**	0	1	0	0	0	0	0	**1**	0	1	**3**
Total Volume	0	1	0	1	1	1	0	2	0	0	0	0	0	1	1	2	5
% App. Total	0	100	0		50	50	0		0	0	0		0	50	50		
PHF	.000	.250	.000	.250	.250	.250	.000	.500	.000	.000	.000	.000	.000	.250	.250	.500	.417

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City of Hesperia
N/S: I-15 Southbound Ramps
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File Name : 05_HES_15S_Oak PM
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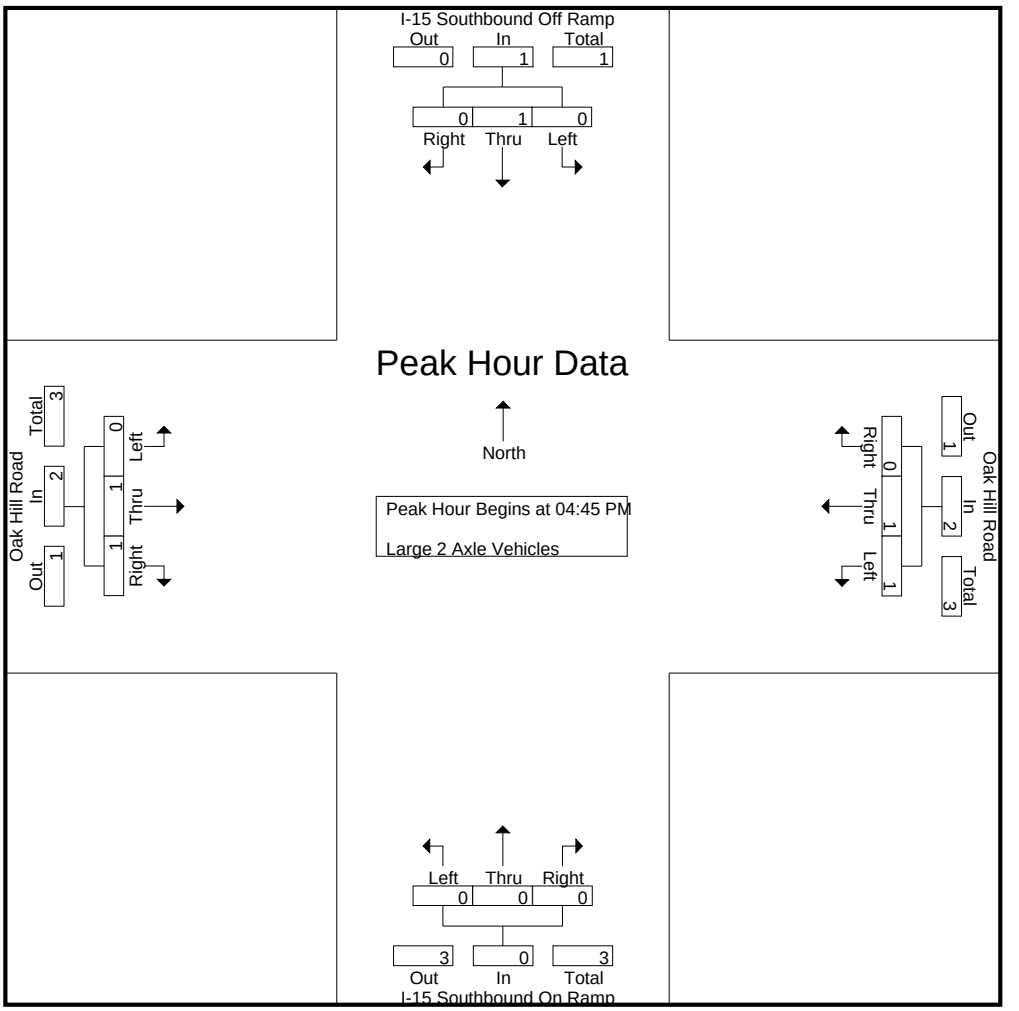

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+15 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**1**	0	**1**	0	**1**	0	1	0	0	0	0	0	**1**	0	1
Total Volume	0	1	0	1	1	1	0	2	0	0	0	0	0	1	1	2
% App. Total	0	100	0		50	50	0		0	0	0		0	50	50	
PHF	.000	.250	.000	.250	.250	.250	.000	.500	.000	.000	.000	.000	.000	.250	.250	.500

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
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Groups Printed- 3 Axle Vehicles

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	50	0	50	0	0	0	0	0	50	0	50	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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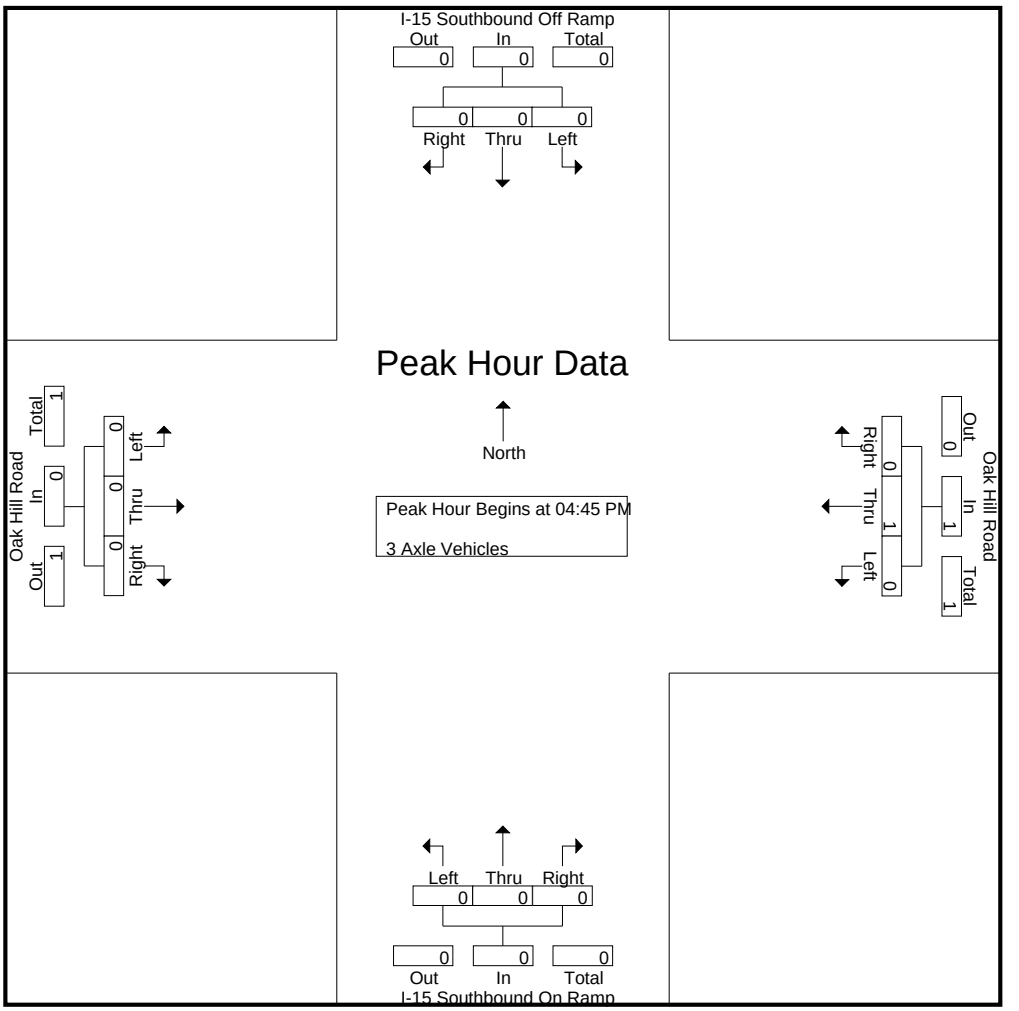
(951) 268-6268

City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
05:00 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
05:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	1	1	0	2	1	4	0	5	0	0	0	0	0	0	1	1	8
Grand Total	1	2	0	3	2	4	0	6	0	0	0	0	0	0	1	1	10
Apprch %	33.3	66.7	0		33.3	66.7	0		0	0	0		0	0	100		
Total %	10	20	0	30	20	40	0	60	0	0	0	0	0	0	10	10	

	I-15 Southbound Off Ramp Southbound				Oak Hill Road Westbound				I-15 Southbound On Ramp Northbound				Oak Hill Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	**1**	0	0	**1**	0	1	0	1	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	1	**2**	0	**3**	0	0	0	0	0	0	0	0	**3**
05:30 PM	0	**1**	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Total Volume	1	1	0	2	2	4	0	6	0	0	0	0	0	0	0	0	8
% App. Total	50	50	0		33.3	66.7	0		0	0	0		0	0	0		
PHF	.250	.250	.000	.500	.500	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.667

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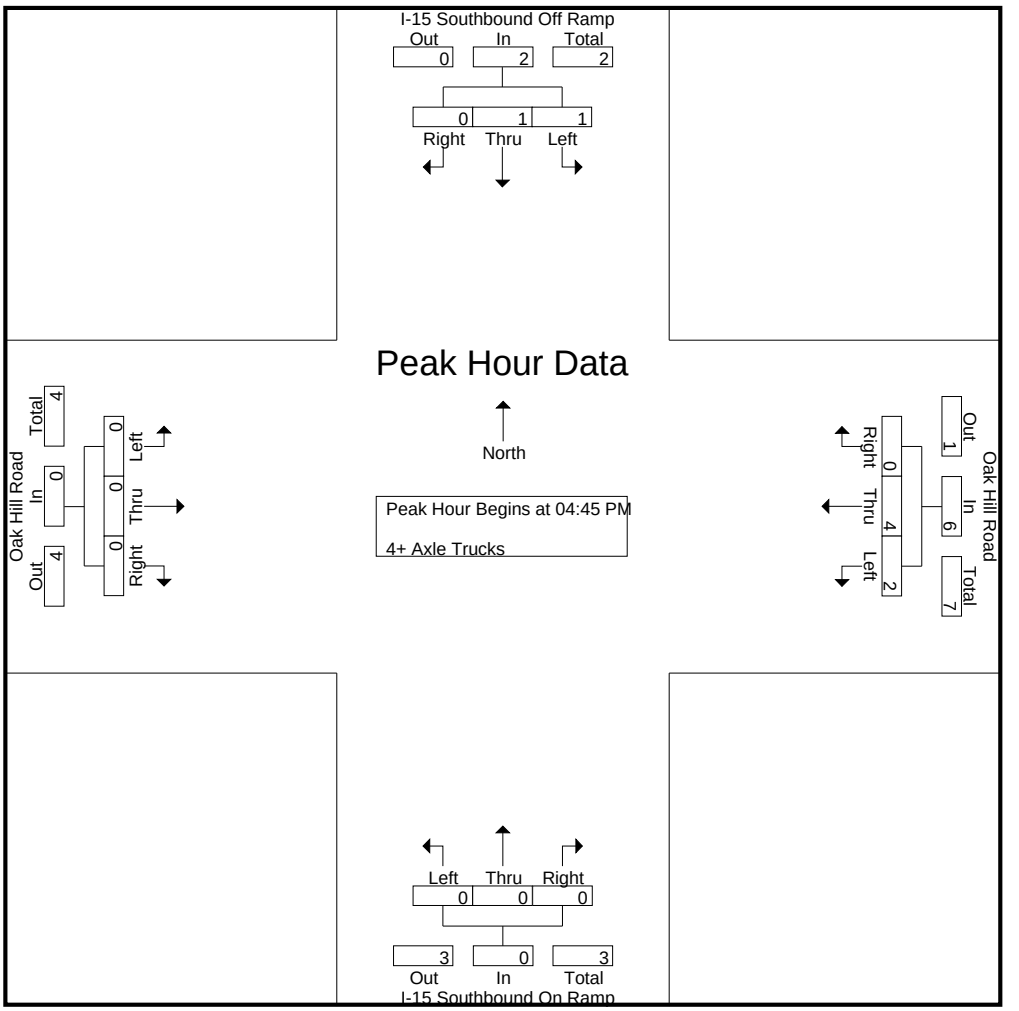
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Oak Hill Road
Weather: Clear

File Name : 05_HES_15S_Oak PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	0	**1**	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	**2**	0	**3**	0	0	0	0	0	0	0	0
+45 mins.	0	**1**	0	1	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	2	4	0	6	0	0	0	0	0	0	0	0
% App. Total	50	50	0		33.3	66.7	0		0	0	0		0	0	0	
PHF	.250	.250	.000	.500	.500	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000

Location: Hesperia
N/S: I-15 SB Ramps
E/W: Oak Hill Road

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg I-15 SB Ramps	East Leg Oak Hill Road	South Leg I-15 SB Ramps	West Leg Oak Hill Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 SB Ramps	East Leg Oak Hill Road	South Leg I-15 SB Ramps	West Leg Oak Hill Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: I-15 SB Ramps
E/W: Oak Hill Road

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound I-15 SB Ramps			Westbound Oak Hill Road			Northbound I-15 SB Ramps			Eastbound Oak Hill Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-15 SB Ramps			Westbound Oak Hill Road			Northbound I-15 SB Ramps			Eastbound Oak Hill Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	197	95	10	292	13	0	103	11	116	0	234	43	2	277	23	685	708
07:15 AM	0	0	0	0	0	0	245	143	12	388	17	0	91	8	108	0	303	70	6	373	26	869	895
07:30 AM	0	0	0	0	0	0	256	161	7	417	24	1	87	19	112	0	233	87	10	320	36	849	885
07:45 AM	0	0	0	0	0	0	252	142	3	394	12	0	97	8	109	0	243	74	3	317	14	820	834
Total	0	0	0	0	0	0	950	541	32	1491	66	1	378	46	445	0	1013	274	21	1287	99	3223	3322
08:00 AM	0	0	0	0	0	0	251	132	3	383	10	0	85	5	95	0	198	65	2	263	10	741	751
08:15 AM	0	0	0	0	0	0	249	112	3	361	15	1	73	9	89	0	246	64	0	310	12	760	772
08:30 AM	0	0	0	0	0	0	259	88	2	347	9	0	71	8	80	0	185	61	0	246	10	673	683
08:45 AM	0	0	0	0	0	0	218	65	2	283	19	2	81	14	102	0	244	60	0	304	16	689	705
Total	0	0	0	0	0	0	977	397	10	1374	53	3	310	36	366	0	873	250	2	1123	48	2863	2911
Grand Total	0	0	0	0	0	0	1927	938	42	2865	119	4	688	82	811	0	1886	524	23	2410	147	6086	6233
Apprch %	0	0	0			0	67.3	32.7			14.7	0.5	84.8			0	78.3	21.7					
Total %	0	0	0		0	0	31.7	15.4		47.1	2	0.1	11.3		13.3	0	31	8.6		39.6	2.4	97.6	
Passenger Vehicles	0	0	0		0	0	1822	909		2773	105	2	629		811	0	1801	493		2316	0	0	5900
% Passenger Vehicles	0	0	0	0	0	0	94.6	96.9	100	95.4	88.2	50	91.4	91.5	90.8	0	95.5	94.1	95.7	95.2	0	0	94.7
Large 2 Axle Vehicles	0	0	0		0	0	44	9		53	4	2	22		28	0	46	9		55	0	0	136
% Large 2 Axle Vehicles	0	0	0	0	0	0	2.3	1	0	1.8	3.4	50	3.2	0	3.1	0	2.4	1.7	0	2.3	0	0	2.2
3 Axle Vehicles	0	0	0		0	0	15	6		21	1	0	6		8	0	7	3		10	0	0	39
% 3 Axle Vehicles	0	0	0	0	0	0	0.8	0.6	0	0.7	0.8	0	0.9	1.2	0.9	0	0.4	0.6	0	0.4	0	0	0.6
4+ Axle Trucks	0	0	0		0	0	46	14		60	9	0	31		46	0	32	19		52	0	0	158
% 4+ Axle Trucks	0	0	0	0	0	0	2.4	1.5	0	2.1	7.6	0	4.5	7.3	5.2	0	1.7	3.6	4.3	2.1	0	0	2.5

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	245	143	388	17	0	91	108	0	**303**	70	**373**	**869**
07:30 AM	0	0	0	0	0	**256**	**161**	**417**	**24**	**1**	87	**112**	0	233	**87**	320	849
07:45 AM	0	0	0	0	0	252	142	394	12	0	**97**	109	0	243	74	317	820
08:00 AM	0	0	0	0	0	251	132	383	10	0	85	95	0	198	65	263	741
Total Volume	0	0	0	0	0	1004	578	1582	63	1	360	424	0	977	296	1273	3279
% App. Total	0	0	0		0	63.5	36.5		14.9	0.2	84.9		0	76.7	23.3		
PHF	.000	.000	.000	.000	.000	.980	.898	.948	.656	.250	.928	.946	.000	.806	.851	.853	.943

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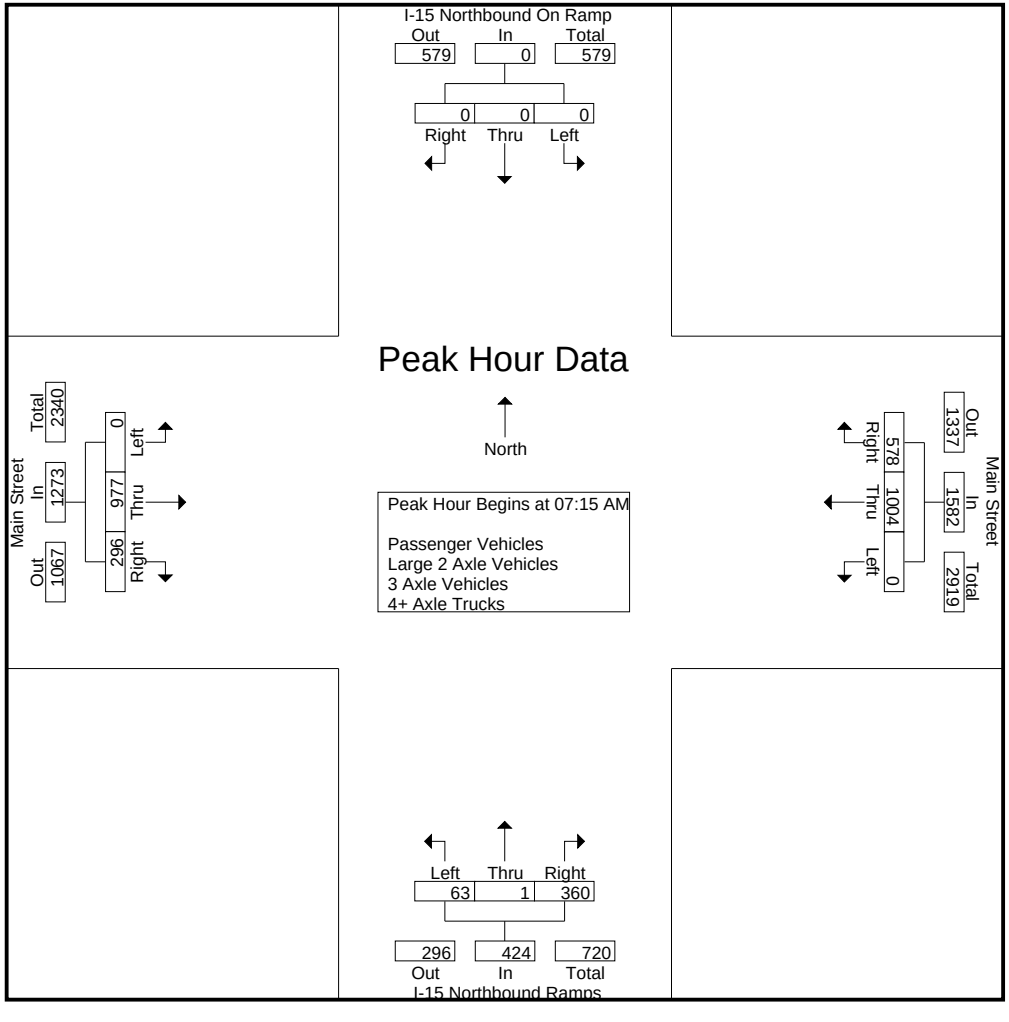
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:15 AM				07:00 AM				07:00 AM				
+0 mins.	0	0	0	0	0	245	143	388	13	0	**103**	**116**	0	234	43	277	
+15 mins.	0	0	0	0	0	**256**	**161**	**417**	17	0	91	108	0	**303**	70	**373**	
+30 mins.	0	0	0	0	0	252	142	394	**24**	**1**	87	112	0	233	**87**	320	
+45 mins.	0	0	0	0	0	251	132	383	12	0	97	109	0	243	74	317	
Total Volume	0	0	0	0	0	1004	578	1582	66	1	378	445	0	1013	274	1287	
% App. Total	0	0	0		0	63.5	36.5		14.8	0.2	84.9		0	78.7	21.3		
PHF	.000	.000	.000	.000	.000	.980	.898	.948	.688	.250	.917	.959	.000	.836	.787	.863	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	187	92	10	279	12	0	95	11	107	0	225	39	2	264	23	650	673
07:15 AM	0	0	0	0	0	0	228	138	12	366	15	0	87	8	102	0	285	70	6	355	26	823	849
07:30 AM	0	0	0	0	0	0	238	157	7	395	20	0	77	17	97	0	223	81	9	304	33	796	829
07:45 AM	0	0	0	0	0	0	238	136	3	374	11	0	91	8	102	0	234	69	3	303	14	779	793
Total	0	0	0	0	0	0	891	523	32	1414	58	0	350	44	408	0	967	259	20	1226	96	3048	3144
08:00 AM	0	0	0	0	0	0	239	130	3	369	7	0	77	5	84	0	191	59	2	250	10	703	713
08:15 AM	0	0	0	0	0	0	236	110	3	346	14	1	68	8	83	0	236	61	0	297	11	726	737
08:30 AM	0	0	0	0	0	0	248	82	2	330	9	0	64	8	73	0	178	58	0	236	10	639	649
08:45 AM	0	0	0	0	0	0	208	64	2	272	17	1	70	10	88	0	229	56	0	285	12	645	657
Total	0	0	0	0	0	0	931	386	10	1317	47	2	279	31	328	0	834	234	2	1068	43	2713	2756
Grand Total	0	0	0	0	0	0	1822	909	42	2731	105	2	629	75	736	0	1801	493	22	2294	139	5761	5900
Apprch %	0	0	0			0	66.7	33.3			14.3	0.3	85.5			0	78.5	21.5					
Total %	0	0	0		0	0	31.6	15.8		47.4	1.8	0	10.9		12.8	0	31.3	8.6		39.8	2.4	97.6	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	228	138	366	15	0	87	**102**	0	**285**	70	**355**	**823**
07:30 AM	0	0	0	0	0	238	**157**	**395**	**20**	0	77	97	0	223	**81**	304	796
07:45 AM	0	0	0	0	0	238	136	374	11	0	**91**	102	0	234	69	303	779
08:00 AM	0	0	0	0	0	**239**	130	369	7	0	77	84	0	191	59	250	703
Total Volume	0	0	0	0	0	943	561	1504	53	0	332	385	0	933	279	1212	3101
% App. Total	0	0	0		0	62.7	37.3		13.8	0	86.2		0	77	23		
PHF	.000	.000	.000	.000	.000	.986	.893	.952	.663	.000	.912	.944	.000	.818	.861	.854	.942

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PO Box 1178
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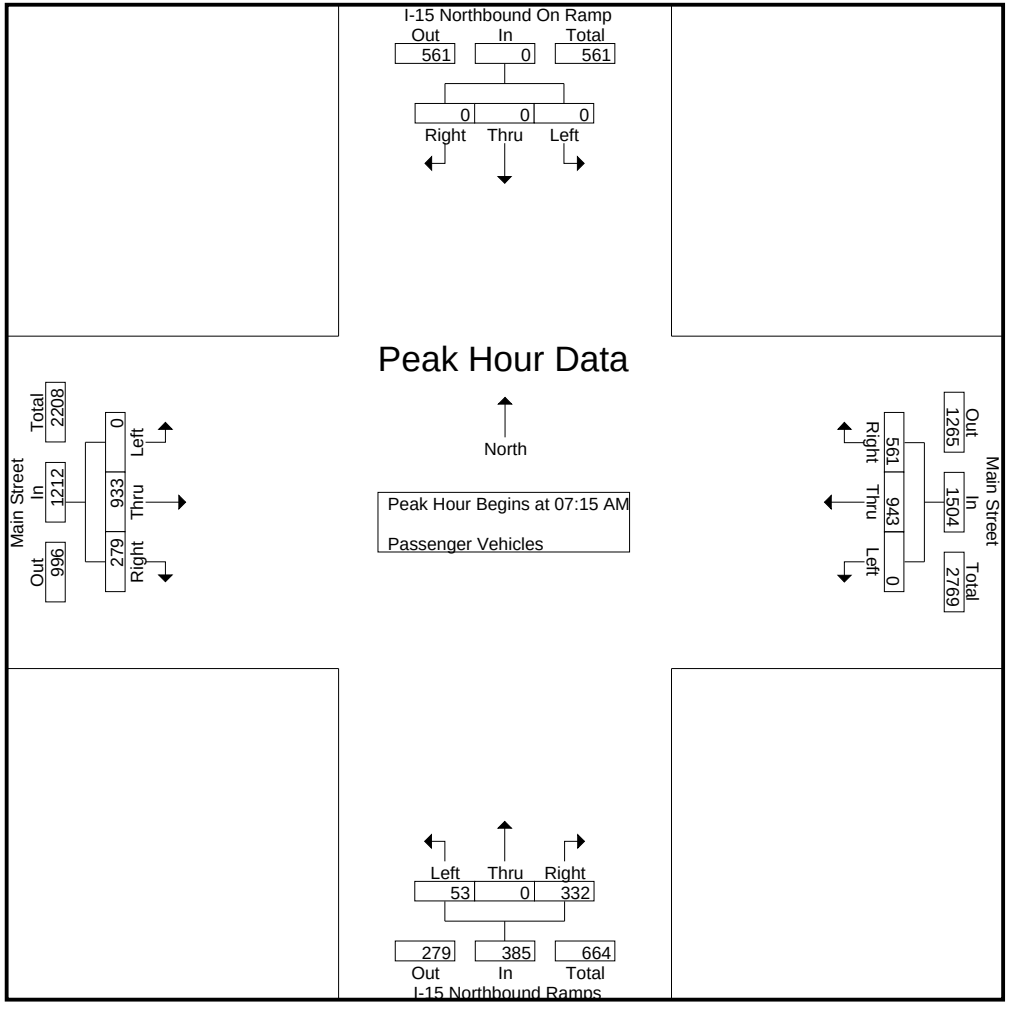
(951) 268-6268

City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	228	138	366	15	0	87	**102**	0	**285**	70	**355**	
+15 mins.	0	0	0	0	0	238	**157**	**395**	**20**	0	77	97	0	223	**81**	304	
+30 mins.	0	0	0	0	0	238	136	374	11	0	**91**	102	0	234	69	303	
+45 mins.	0	0	0	0	0	**239**	130	369	7	0	77	84	0	191	59	250	
Total Volume	0	0	0	0	0	943	561	1504	53	0	332	385	0	933	279	1212	
% App. Total	0	0	0		0	62.7	37.3		13.8	0	86.2		0	77	23		
PHF	.000	.000	.000	.000	.000	.986	.893	.952	.663	.000	.912	.944	.000	.818	.861	.854	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Large 2 Axle Vehicles

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	4	0	4	0	4	1	0	5	0	16	16
07:15 AM	0	0	0	0	0	0	6	2	0	8	0	0	2	0	2	0	7	0	0	7	0	17	17
07:30 AM	0	0	0	0	0	0	4	2	0	6	3	1	2	0	6	0	7	4	0	11	0	23	23
07:45 AM	0	0	0	0	0	0	4	1	0	5	0	0	3	0	3	0	6	1	0	7	0	15	15
Total	0	0	0	0	0	0	21	5	0	26	3	1	11	0	15	0	24	6	0	30	0	71	71
08:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	3	0	3	0	4	0	0	4	0	12	12
08:15 AM	0	0	0	0	0	0	8	1	0	9	1	0	3	0	4	0	7	1	0	8	0	21	21
08:30 AM	0	0	0	0	0	0	4	2	0	6	0	0	4	0	4	0	4	1	0	5	0	15	15
08:45 AM	0	0	0	0	0	0	6	1	0	7	0	1	1	0	2	0	7	1	0	8	0	17	17
Total	0	0	0	0	0	0	23	4	0	27	1	1	11	0	13	0	22	3	0	25	0	65	65
Grand Total	0	0	0	0	0	0	44	9	0	53	4	2	22	0	28	0	46	9	0	55	0	136	136
Apprch %	0	0	0			0	83	17			14.3	7.1	78.6			0	83.6	16.4					
Total %	0	0	0		0	0	32.4	6.6		39	2.9	1.5	16.2		20.6	0	33.8	6.6		40.4	0	100	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	**6**	**2**	**8**	0	0	2	2	0	**7**	0	7	17
07:30 AM	0	0	0	0	0	4	2	6	**3**	**1**	2	**6**	0	7	**4**	**11**	**23**
07:45 AM	0	0	0	0	0	4	1	5	0	0	**3**	3	0	6	1	7	15
08:00 AM	0	0	0	0	0	5	0	5	0	0	3	3	0	4	0	4	12
Total Volume	0	0	0	0	0	19	5	24	3	1	10	14	0	24	5	29	67
% App. Total	0	0	0		0	79.2	20.8		21.4	7.1	71.4		0	82.8	17.2		
PHF	.000	.000	.000	.000	.000	.792	.625	.750	.250	.250	.833	.583	.000	.857	.313	.659	.728

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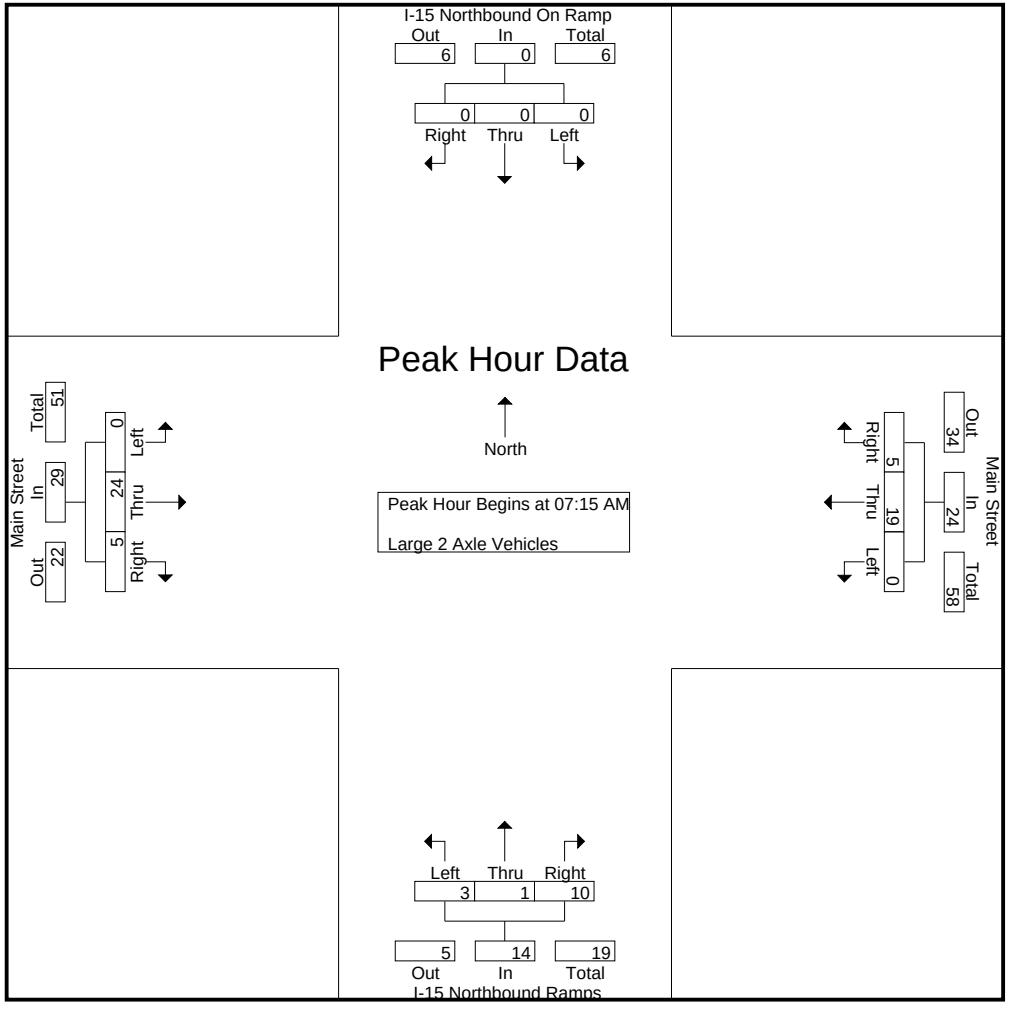
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	**6**	**2**	**8**	0	0	2	2	0	**7**	0	7	
+15 mins.	0	0	0	0	0	4	2	6	**3**	**1**	2	**6**	0	7	**4**	**11**	
+30 mins.	0	0	0	0	0	4	1	5	0	0	**3**	3	0	6	1	7	
+45 mins.	0	0	0	0	0	5	0	5	0	0	3	3	0	4	0	4	
Total Volume	0	0	0	0	0	19	5	24	3	1	10	14	0	24	5	29	
% App. Total	0	0	0		0	79.2	20.8		21.4	7.1	71.4		0	82.8	17.2		
PHF	.000	.000	.000	.000	.000	.792	.625	.750	.250	.250	.833	.583	.000	.857	.313	.659	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 3 Axle Vehicles

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	0	3	3
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	0	5	5
07:45 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	3	3
Total	0	0	0	0	0	0	7	1	0	8	0	0	3	0	3	0	1	1	0	2	0	13	13
08:00 AM	0	0	0	0	0	0	3	2	0	5	1	0	1	0	2	0	0	1	0	1	0	8	8
08:15 AM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	2	1	0	3	0	6	6
08:30 AM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	1	0	0	1	0	5	5
08:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	2	1	2	0	3	0	0	3	1	6	7
Total	0	0	0	0	0	0	8	5	0	13	1	0	3	1	4	0	6	2	0	8	1	25	26
Grand Total	0	0	0	0	0	0	15	6	0	21	1	0	6	1	7	0	7	3	0	10	1	38	39
Apprch %	0	0	0			0	71.4	28.6			14.3	0	85.7			0	70	30					
Total %	0	0	0		0	0	39.5	15.8		55.3	2.6	0	15.8		18.4	0	18.4	7.9		26.3	2.6	97.4	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	1	0	1	0	0	**1**	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	**4**	0	4	0	0	1	1	0	0	0	0	5
07:45 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	**1**	0	**1**	3
08:00 AM	0	0	0	0	0	3	**2**	**5**	**1**	0	1	**2**	0	0	**1**	1	**8**
Total Volume	0	0	0	0	0	9	3	12	1	0	3	4	0	1	1	2	18
% App. Total	0	0	0		0	75	25		25	0	75		0	50	50		
PHF	.000	.000	.000	.000	.000	.563	.375	.600	.250	.000	.750	.500	.000	.250	.250	.500	.563

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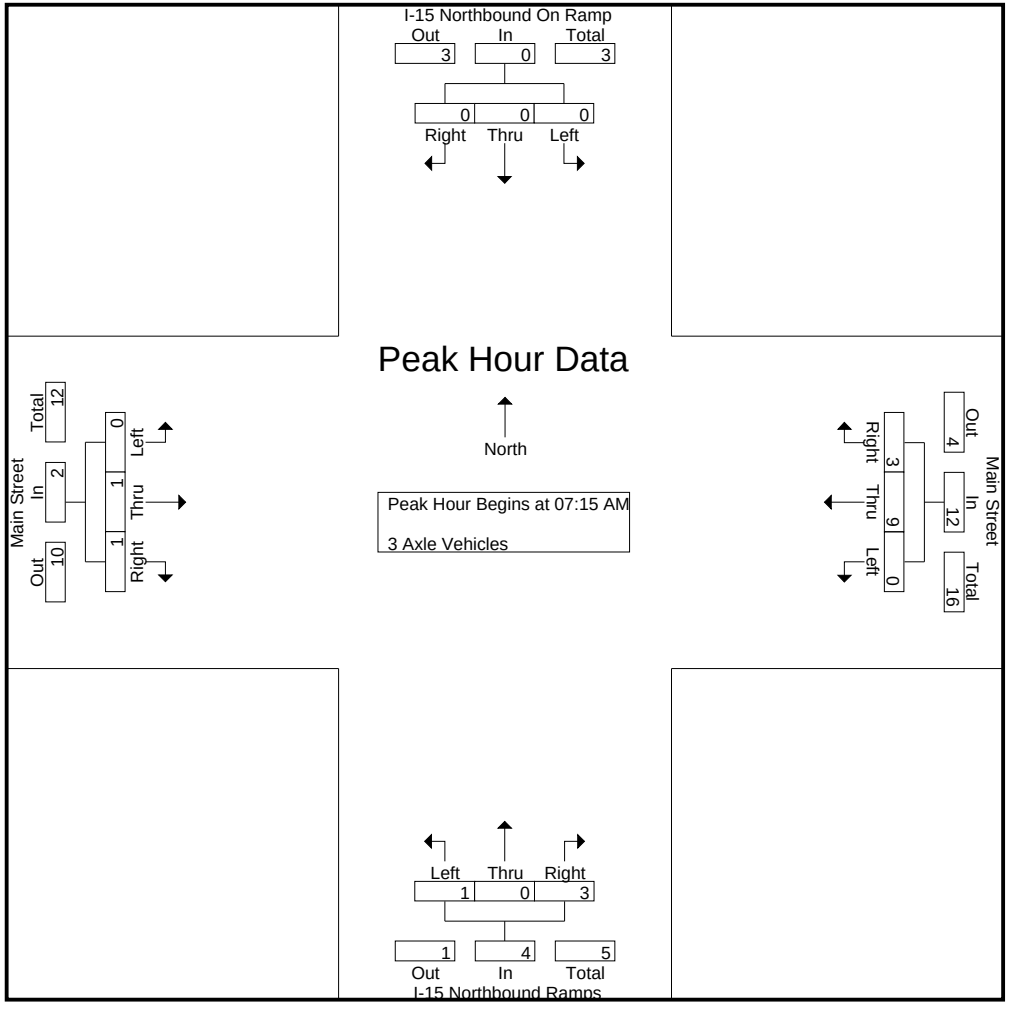
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	1	0	1	0	0	**1**	1	0	0	0	0	
+15 mins.	0	0	0	0	0	**4**	0	4	0	0	1	1	0	0	0	0	
+30 mins.	0	0	0	0	0	1	1	2	0	0	0	0	0	**1**	0	**1**	
+45 mins.	0	0	0	0	0	3	**2**	**5**	**1**	0	1	**2**	0	0	**1**	1	
Total Volume	0	0	0	0	0	9	3	12	1	0	3	4	0	1	1	2	
% App. Total	0	0	0		0	75	25		25	0	75		0	50	50		
PHF	.000	.000	.000	.000	.000	.563	.375	.600	.250	.000	.750	.500	.000	.250	.250	.500	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 4+ Axle Trucks

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	3	0	5	1	0	3	0	4	0	5	2	0	7	0	16	16
07:15 AM	0	0	0	0	0	0	10	3	0	13	2	0	1	0	3	0	11	0	0	11	0	27	27
07:30 AM	0	0	0	0	0	0	10	2	0	12	1	0	7	2	8	0	3	2	1	5	3	25	28
07:45 AM	0	0	0	0	0	0	9	4	0	13	1	0	3	0	4	0	2	4	0	6	0	23	23
Total	0	0	0	0	0	0	31	12	0	43	5	0	14	2	19	0	21	8	1	29	3	91	94
08:00 AM	0	0	0	0	0	0	4	0	0	4	2	0	4	0	6	0	3	5	0	8	0	18	18
08:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	2	1	2	0	1	1	0	2	1	7	8
08:30 AM	0	0	0	0	0	0	5	2	0	7	0	0	3	0	3	0	2	2	0	4	0	14	14
08:45 AM	0	0	0	0	0	0	3	0	0	3	2	0	8	3	10	0	5	3	0	8	3	21	24
Total	0	0	0	0	0	0	15	2	0	17	4	0	17	4	21	0	11	11	0	22	4	60	64
Grand Total	0	0	0	0	0	0	46	14	0	60	9	0	31	6	40	0	32	19	1	51	7	151	158
Apprch %	0	0	0			0	76.7	23.3			22.5	0	77.5			0	62.7	37.3					
Total %	0	0	0		0	0	30.5	9.3		39.7	6	0	20.5		26.5	0	21.2	12.6		33.8	4.4	95.6	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	**10**	3	**13**	**2**	0	1	3	0	**11**	0	**11**	**27**
07:30 AM	0	0	0	0	0	10	2	12	1	0	**7**	**8**	0	3	2	5	25
07:45 AM	0	0	0	0	0	9	**4**	13	1	0	3	4	0	2	4	6	23
08:00 AM	0	0	0	0	0	4	0	4	2	0	4	6	0	3	**5**	8	18
Total Volume	0	0	0	0	0	33	9	42	6	0	15	21	0	19	11	30	93
% App. Total	0	0	0		0	78.6	21.4		28.6	0	71.4		0	63.3	36.7		
PHF	.000	.000	.000	.000	.000	.825	.563	.808	.750	.000	.536	.656	.000	.432	.550	.682	.861

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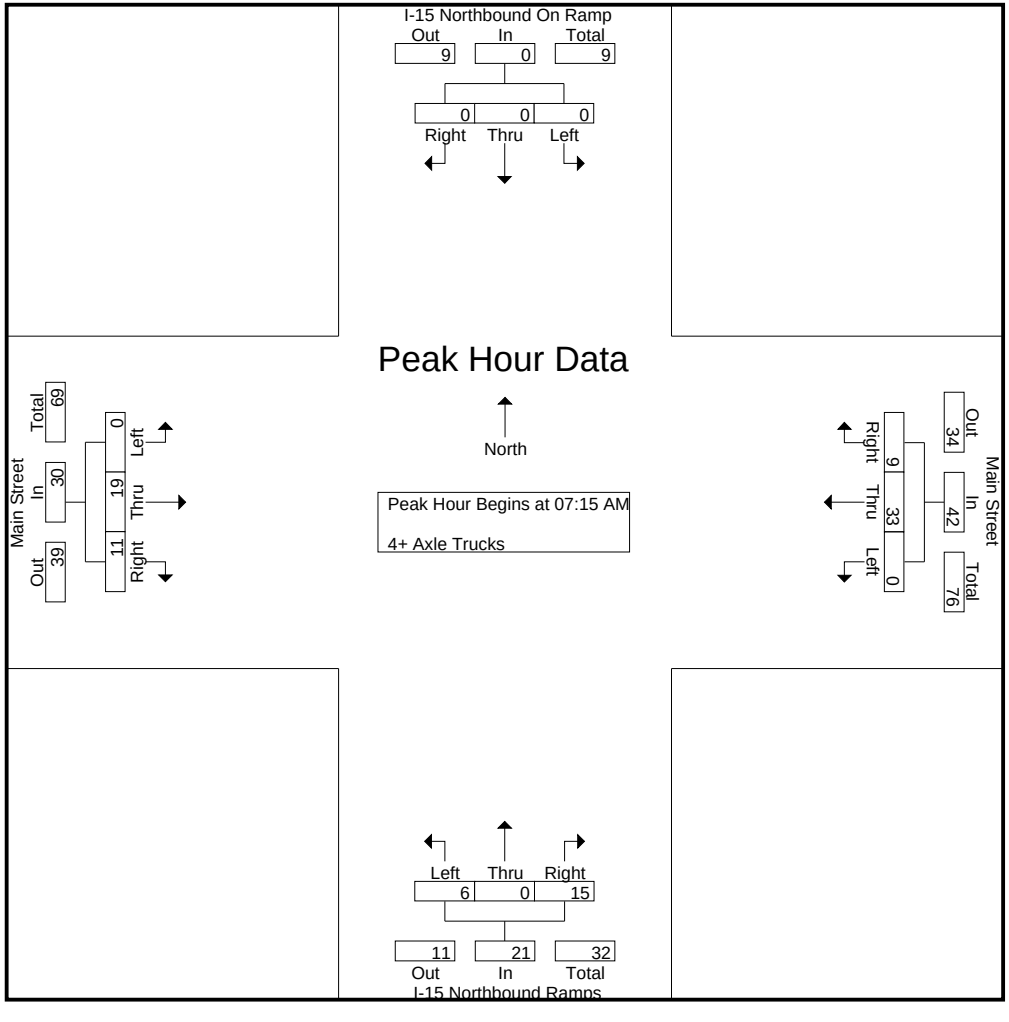
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
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File Name : 06_HES_15N_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	**10**	3	**13**	**2**	0	1	3	0	**11**	0	**11**	
+15 mins.	0	0	0	0	0	10	2	12	1	0	**7**	**8**	0	3	2	5	
+30 mins.	0	0	0	0	0	9	**4**	13	1	0	3	4	0	2	4	6	
+45 mins.	0	0	0	0	0	4	0	4	2	0	4	6	0	3	**5**	8	
Total Volume	0	0	0	0	0	33	9	42	6	0	15	21	0	19	11	30	
% App. Total	0	0	0		0	78.6	21.4		28.6	0	71.4		0	63.3	36.7		
PHF	.000	.000	.000	.000	.000	.825	.563	.808	.750	.000	.536	.656	.000	.432	.550	.682	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	307	108	12	415	32	2	168	19	202	0	333	59	6	392	37	1009	1046
04:15 PM	0	0	0	0	0	0	302	121	10	423	44	0	170	8	214	0	328	86	13	414	31	1051	1082
04:30 PM	0	0	0	0	0	0	276	118	6	394	45	0	169	5	214	0	350	67	12	417	23	1025	1048
04:45 PM	0	0	0	0	0	0	284	93	7	377	33	0	174	3	207	0	319	75	12	394	22	978	1000
Total	0	0	0	0	0	0	1169	440	35	1609	154	2	681	35	837	0	1330	287	43	1617	113	4063	4176
05:00 PM	0	0	0	0	0	0	253	118	12	371	29	1	184	8	214	0	341	64	4	405	24	990	1014
05:15 PM	0	0	0	0	0	0	287	120	5	407	38	0	177	2	215	0	351	63	5	414	12	1036	1048
05:30 PM	0	0	0	0	0	0	303	115	12	418	40	0	165	7	205	0	357	54	9	411	28	1034	1062
05:45 PM	0	0	0	0	0	0	293	89	3	382	42	0	152	6	194	0	339	45	2	384	11	960	971
Total	0	0	0	0	0	0	1136	442	32	1578	149	1	678	23	828	0	1388	226	20	1614	75	4020	4095
Grand Total	0	0	0	0	0	0	2305	882	67	3187	303	3	1359	58	1665	0	2718	513	63	3231	188	8083	8271
Apprch %	0	0	0			0	72.3	27.7			18.2	0.2	81.6			0	84.1	15.9					
Total %	0	0	0		0	0	28.5	10.9		39.4	3.7	0	16.8		20.6	0	33.6	6.3		40	2.3	97.7	
Passenger Vehicles	0	0	0		0	0	2245	867		3178	295	1	1324		1678	0	2666	488		3213	0	0	8069
% Passenger Vehicles	0	0	0	0	0	0	97.4	98.3	98.5	97.7	97.4	33.3	97.4	100	97.4	0	98.1	95.1	93.7	97.5	0	0	97.6
Large 2 Axle Vehicles	0	0	0		0	0	25	5		30	1	0	13		14	0	21	5		27	0	0	71
% Large 2 Axle Vehicles	0	0	0	0	0	0	1.1	0.6	0	0.9	0.3	0	1	0	0.8	0	0.8	1	1.6	0.8	0	0	0.9
3 Axle Vehicles	0	0	0		0	0	10	1		11	0	0	6		6	0	4	2		6	0	0	23
% 3 Axle Vehicles	0	0	0	0	0	0	0.4	0.1	0	0.3	0	0	0.4	0	0.3	0	0.1	0.4	0	0.2	0	0	0.3
4+ Axle Trucks	0	0	0		0	0	25	9		35	7	2	16		25	0	27	18		48	0	0	108
% 4+ Axle Trucks	0	0	0	0	0	0	1.1	1	1.5	1.1	2.3	66.7	1.2	0	1.5	0	1	3.5	4.8	1.5	0	0	1.3

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**307**	108	415	32	**2**	168	202	0	333	59	392	1009
04:15 PM	0	0	0	0	0	302	**121**	**423**	44	0	170	**214**	0	328	**86**	414	**1051**
04:30 PM	0	0	0	0	0	276	118	394	**45**	0	169	214	0	**350**	67	**417**	1025
04:45 PM	0	0	0	0	0	284	93	377	33	0	**174**	207	0	319	75	394	978
Total Volume	0	0	0	0	0	1169	440	1609	154	2	681	837	0	1330	287	1617	4063
% App. Total	0	0	0		0	72.7	27.3		18.4	0.2	81.4		0	82.3	17.7		
PHF	.000	.000	.000	.000	.000	.952	.909	.951	.856	.250	.978	.978	.000	.950	.834	.969	.966

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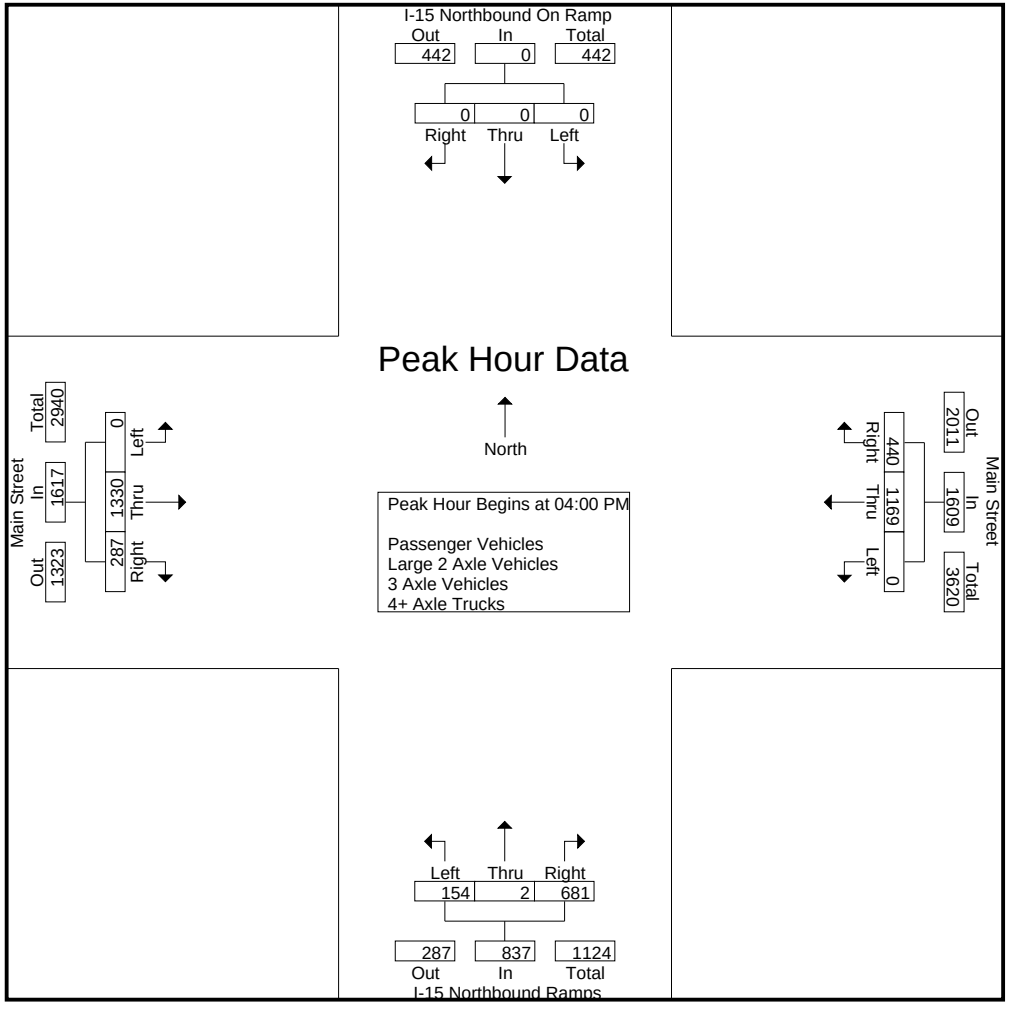
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:30 PM				04:15 PM				
+0 mins.	0	0	0	0	0	**307**	108	415	**45**	0	169	214	0	328	**86**	414	
+15 mins.	0	0	0	0	0	302	**121**	**423**	33	0	174	207	0	**350**	67	**417**	
+30 mins.	0	0	0	0	0	276	118	394	29	**1**	**184**	214	0	319	75	394	
+45 mins.	0	0	0	0	0	284	93	377	38	0	177	**215**	0	341	64	405	
Total Volume	0	0	0	0	0	1169	440	1609	145	1	704	850	0	1338	292	1630	
% App. Total	0	0	0		0	72.7	27.3		17.1	0.1	82.8		0	82.1	17.9		
PHF	.000	.000	.000	.000	.000	.952	.909	.951	.806	.250	.957	.988	.000	.956	.849	.977	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Passenger Vehicles

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	296	107	12	403	32	1	165	19	198	0	328	54	6	382	37	983	1020
04:15 PM	0	0	0	0	0	0	288	120	10	408	42	0	167	8	209	0	321	82	12	403	30	1020	1050
04:30 PM	0	0	0	0	0	0	268	117	6	385	44	0	160	5	204	0	341	66	12	407	23	996	1019
04:45 PM	0	0	0	0	0	0	276	91	7	367	32	0	170	3	202	0	312	74	12	386	22	955	977
Total	0	0	0	0	0	0	1128	435	35	1563	150	1	662	35	813	0	1302	276	42	1578	112	3954	4066
05:00 PM	0	0	0	0	0	0	249	115	12	364	27	0	181	8	208	0	337	62	4	399	24	971	995
05:15 PM	0	0	0	0	0	0	282	118	5	400	38	0	170	2	208	0	342	57	4	399	11	1007	1018
05:30 PM	0	0	0	0	0	0	296	111	11	407	39	0	164	7	203	0	353	49	7	402	25	1012	1037
05:45 PM	0	0	0	0	0	0	290	88	3	378	41	0	147	6	188	0	332	44	2	376	11	942	953
Total	0	0	0	0	0	0	1117	432	31	1549	145	0	662	23	807	0	1364	212	17	1576	71	3932	4003
Grand Total	0	0	0	0	0	0	2245	867	66	3112	295	1	1324	58	1620	0	2666	488	59	3154	183	7886	8069
Apprch %	0	0	0			0	72.1	27.9			18.2	0.1	81.7			0	84.5	15.5					
Total %	0	0	0		0	0	28.5	11		39.5	3.7	0	16.8		20.5	0	33.8	6.2		40	2.3	97.7	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**296**	107	403	32	**1**	165	198	0	328	54	382	983
04:15 PM	0	0	0	0	0	288	**120**	**408**	42	0	167	**209**	0	321	**82**	403	**1020**
04:30 PM	0	0	0	0	0	268	117	385	**44**	0	160	204	0	**341**	66	**407**	996
04:45 PM	0	0	0	0	0	276	91	367	32	0	**170**	202	0	312	74	386	955
Total Volume	0	0	0	0	0	1128	435	1563	150	1	662	813	0	1302	276	1578	3954
% App. Total	0	0	0		0	72.2	27.8		18.5	0.1	81.4		0	82.5	17.5		
PHF	.000	.000	.000	.000	.000	.953	.906	.958	.852	.250	.974	.972	.000	.955	.841	.969	.969

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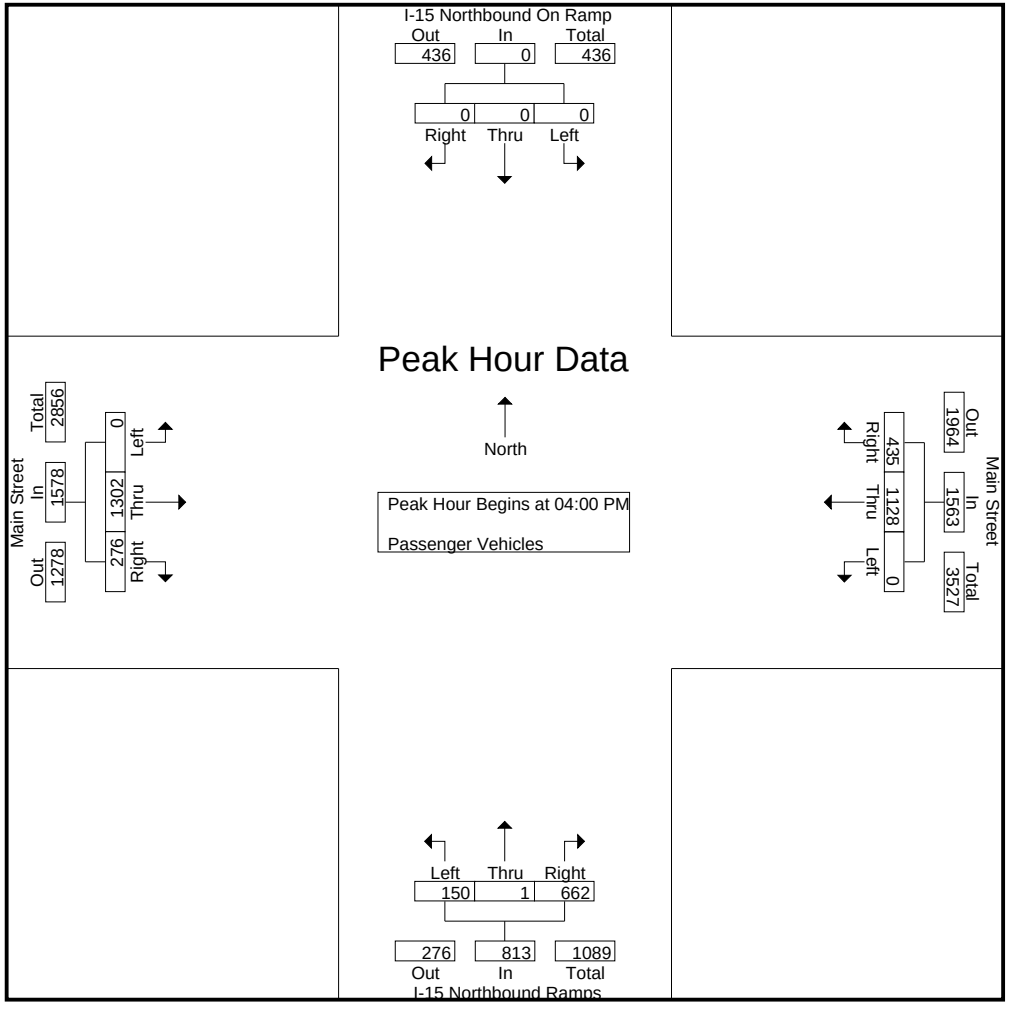
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	**296**	107	403	32	**1**	165	198	0	328	54	382	
+15 mins.	0	0	0	0	0	288	**120**	**408**	42	0	167	**209**	0	321	**82**	403	
+30 mins.	0	0	0	0	0	268	117	385	**44**	0	160	204	0	**341**	66	**407**	
+45 mins.	0	0	0	0	0	276	91	367	32	0	**170**	202	0	312	74	386	
Total Volume	0	0	0	0	0	1128	435	1563	150	1	662	813	0	1302	276	1578	
% App. Total	0	0	0		0	72.2	27.8		18.5	0.1	81.4		0	82.5	17.5		
PHF	.000	.000	.000	.000	.000	.953	.906	.958	.852	.250	.974	.972	.000	.955	.841	.969	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Large 2 Axle Vehicles

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	0	2	1	0	3	0	7	7
04:15 PM	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	0	4	0	0	4	0	15	15
04:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	3	0	3	0	4	1	0	5	0	11	11
04:45 PM	0	0	0	0	0	0	3	2	0	5	0	0	2	0	2	0	2	0	0	2	0	9	9
Total	0	0	0	0	0	0	17	2	0	19	1	0	8	0	9	0	12	2	0	14	0	42	42
05:00 PM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	0	5	5
05:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	3	0	3	0	3	0	0	3	0	9	9
05:30 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	2	3	1	5	1	8	9
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	3	0	0	3	0	6	6
Total	0	0	0	0	0	0	8	3	0	11	0	0	5	0	5	0	9	3	1	12	1	28	29
Grand Total	0	0	0	0	0	0	25	5	0	30	1	0	13	0	14	0	21	5	1	26	1	70	71
Apprch %	0	0	0			0	83.3	16.7			7.1	0	92.9			0	80.8	19.2					
Total %	0	0	0		0	0	35.7	7.1		42.9	1.4	0	18.6		20	0	30	7.1		37.1	1.4	98.6	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	2	0	2	0	0	2	2	0	2	**1**	3	7
04:15 PM	0	0	0	0	0	**9**	0	**9**	**1**	0	1	2	0	**4**	0	4	**15**
04:30 PM	0	0	0	0	0	3	0	3	0	0	**3**	**3**	0	4	1	**5**	11
04:45 PM	0	0	0	0	0	3	**2**	5	0	0	2	2	0	2	0	2	9
Total Volume	0	0	0	0	0	17	2	19	1	0	8	9	0	12	2	14	42
% App. Total	0	0	0		0	89.5	10.5		11.1	0	88.9		0	85.7	14.3		
PHF	.000	.000	.000	.000	.000	.472	.250	.528	.250	.000	.667	.750	.000	.750	.500	.700	.700

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025
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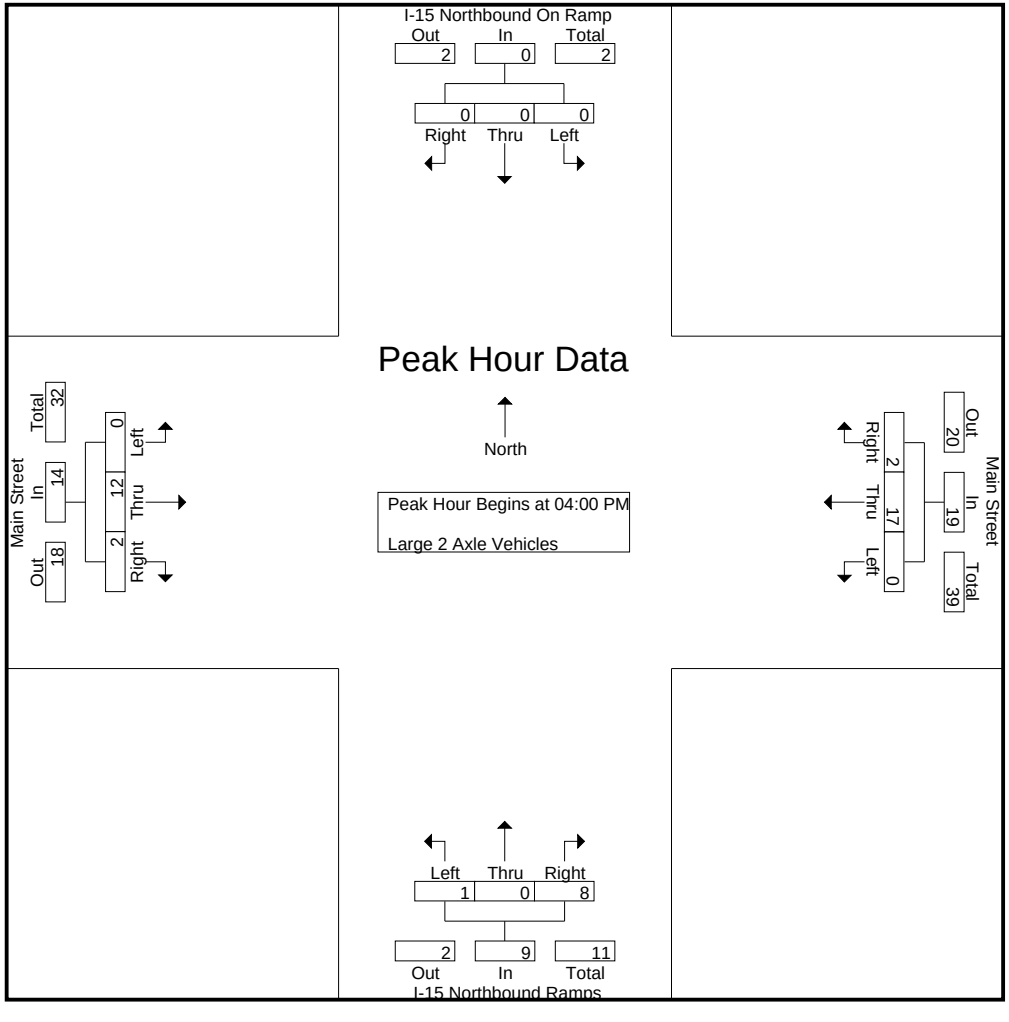

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
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File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	2	0	2	0	0	2	2	0	2	**1**	3	
+15 mins.	0	0	0	0	0	**9**	0	**9**	**1**	0	1	2	0	**4**	0	4	
+30 mins.	0	0	0	0	0	3	0	3	0	0	**3**	**3**	0	4	1	**5**	
+45 mins.	0	0	0	0	0	3	**2**	5	0	0	2	2	0	2	0	2	
Total Volume	0	0	0	0	0	17	2	19	1	0	8	9	0	12	2	14	
% App. Total	0	0	0		0	89.5	10.5		11.1	0	88.9		0	85.7	14.3		
PHF	.000	.000	.000	.000	.000	.472	.250	.528	.250	.000	.667	.750	.000	.750	.500	.700	

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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 3 Axle Vehicles

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	0	4	4
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
04:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	0	0	0	0	0	0	5	5
04:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	4	4
Total	0	0	0	0	0	0	8	0	0	8	0	0	3	0	3	0	3	1	0	4	0	15	15
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	0	1	0	1	0	4	4
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	1	0	3	0	0	3	0	3	0	1	1	0	2	0	8	8
Grand Total	0	0	0	0	0	0	10	1	0	11	0	0	6	0	6	0	4	2	0	6	0	23	23
Apprch %	0	0	0			0	90.9	9.1			0	0	100			0	66.7	33.3					
Total %	0	0	0		0	0	43.5	4.3		47.8	0	0	26.1		26.1	0	17.4	8.7		26.1	0	100	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	**1**	**2**	4
04:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	**3**	0	**3**	0	0	**2**	**2**	0	0	0	0	**5**
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**2**	0	2	4
Total Volume	0	0	0	0	0	8	0	8	0	0	3	3	0	3	1	4	15
% App. Total	0	0	0		0	100	0		0	0	100		0	75	25		
PHF	.000	.000	.000	.000	.000	.667	.000	.667	.000	.000	.375	.375	.000	.375	.250	.500	.750

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City of Hesperia
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File Name : 06_HES_15N_Main PM
Site Code : 05125030
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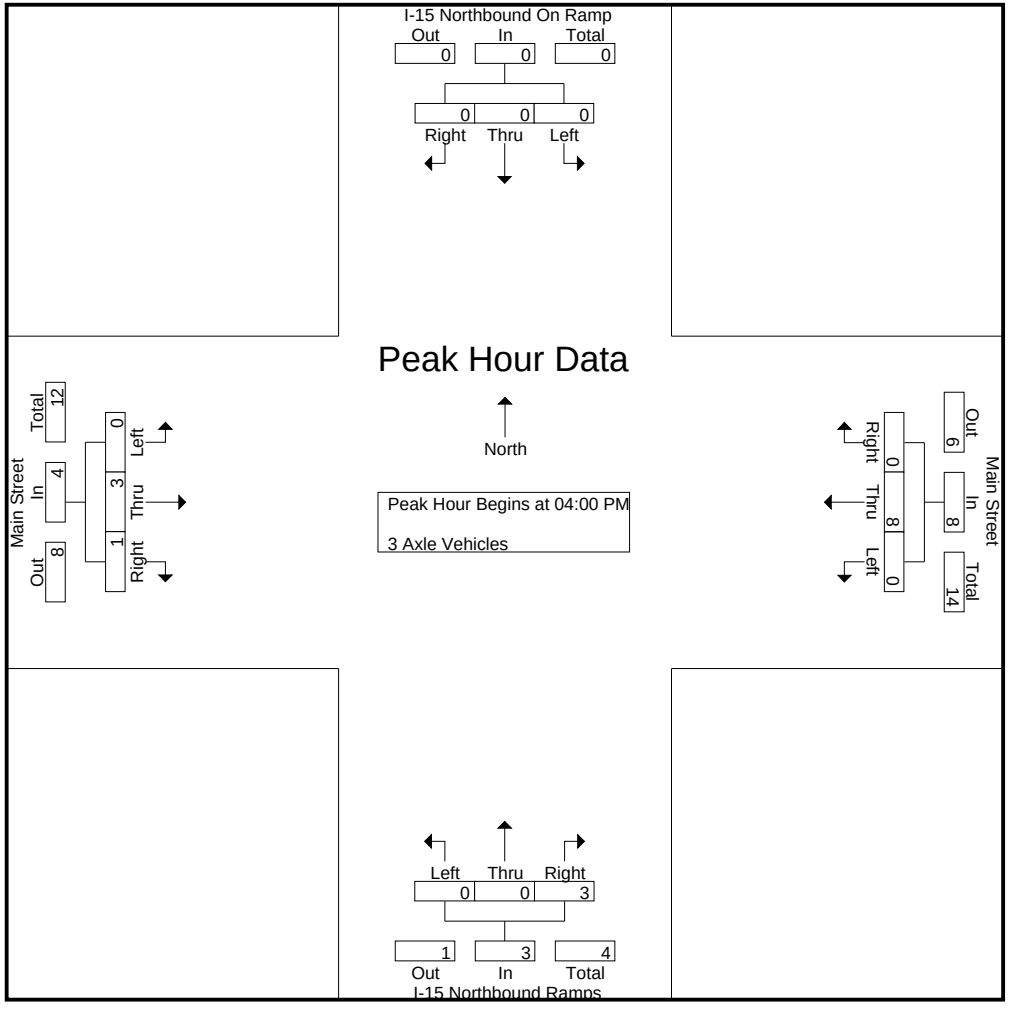

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(951) 268-6268

City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	**1**	**2**	
+15 mins.	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	
+30 mins.	0	0	0	0	0	**3**	0	**3**	0	0	**2**	**2**	0	0	0	0	
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	**2**	0	2	
Total Volume	0	0	0	0	0	8	0	8	0	0	3	3	0	3	1	4	
% App. Total	0	0	0		0	100	0		0	0	100		0	75	25		
PHF	.000	.000	.000	.000	.000	.667	.000	.667	.000	.000	.375	.375	.000	.375	.250	.500	

Counts Unlimited, Inc.
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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-15 Northbound On Ramp Southbound					Main Street Westbound					I-15 Northbound Ramps Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	7	1	0	8	0	1	1	0	2	0	2	3	0	5	0	15	15
04:15 PM	0	0	0	0	0	0	4	1	0	5	1	0	1	0	2	0	3	4	1	7	1	14	15
04:30 PM	0	0	0	0	0	0	2	1	0	3	1	0	4	0	5	0	5	0	0	5	0	13	13
04:45 PM	0	0	0	0	0	0	3	0	0	3	1	0	2	0	3	0	3	1	0	4	0	10	10
Total	0	0	0	0	0	0	16	3	0	19	3	1	8	0	12	0	13	8	1	21	1	52	53
05:00 PM	0	0	0	0	0	0	1	1	0	2	2	1	3	0	6	0	2	2	0	4	0	12	12
05:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	2	0	2	0	6	5	1	11	1	16	17
05:30 PM	0	0	0	0	0	0	4	3	1	7	1	0	0	0	1	0	2	2	1	4	2	12	14
05:45 PM	0	0	0	0	0	0	2	1	0	3	1	0	3	0	4	0	4	1	0	5	0	12	12
Total	0	0	0	0	0	0	9	6	1	15	4	1	8	0	13	0	14	10	2	24	3	52	55
Grand Total	0	0	0	0	0	0	25	9	1	34	7	2	16	0	25	0	27	18	3	45	4	104	108
Apprch %	0	0	0			0	73.5	26.5			28	8	64			0	60	40					
Total %	0	0	0		0	0	24	8.7		32.7	6.7	1.9	15.4		24	0	26	17.3		43.3	3.7	96.3	

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**7**	**1**	**8**	0	**1**	1	2	0	2	3	5	**15**
04:15 PM	0	0	0	0	0	4	1	5	**1**	0	1	2	0	3	**4**	**7**	14
04:30 PM	0	0	0	0	0	2	1	3	1	0	**4**	**5**	0	**5**	0	5	13
04:45 PM	0	0	0	0	0	3	0	3	1	0	2	3	0	3	1	4	10
Total Volume	0	0	0	0	0	16	3	19	3	1	8	12	0	13	8	21	52
% App. Total	0	0	0		0	84.2	15.8		25	8.3	66.7		0	61.9	38.1		
PHF	.000	.000	.000	.000	.000	.571	.750	.594	.750	.250	.500	.600	.000	.650	.500	.750	.867

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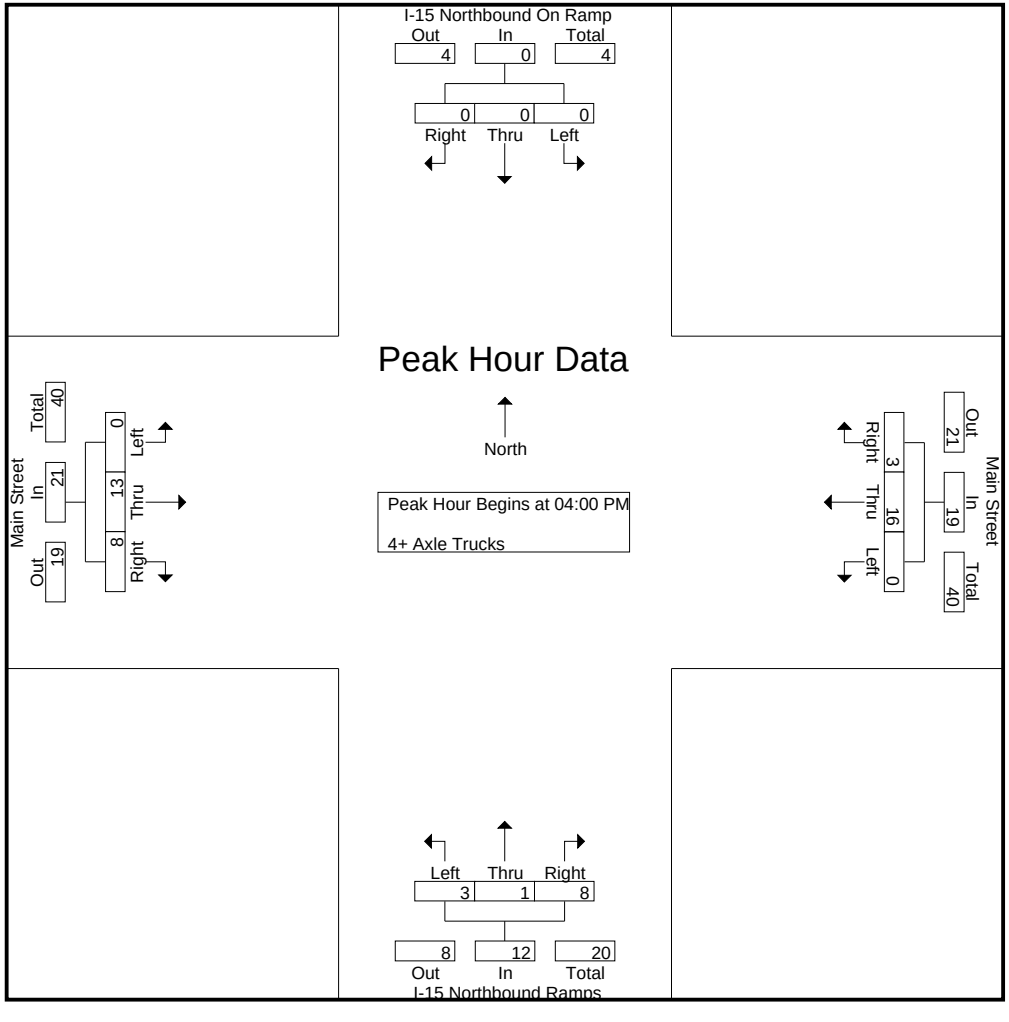
City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street
Weather: Clear

File Name : 06_HES_15N_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Northbound On Ramp Southbound				Main Street Westbound				I-15 Northbound Ramps Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	**7**	**1**	**8**	0	**1**	1	2	0	2	3	5	
+15 mins.	0	0	0	0	0	4	1	5	**1**	0	1	2	0	3	**4**	**7**	
+30 mins.	0	0	0	0	0	2	1	3	1	0	**4**	**5**	0	**5**	0	5	
+45 mins.	0	0	0	0	0	3	0	3	1	0	2	3	0	3	1	4	
Total Volume	0	0	0	0	0	16	3	19	3	1	8	12	0	13	8	21	
% App. Total	0	0	0		0	84.2	15.8		25	8.3	66.7		0	61.9	38.1		
PHF	.000	.000	.000	.000	.000	.571	.750	.594	.750	.250	.500	.600	.000	.650	.500	.750	

Location: Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg I-15 Northbound Ramps	East Leg Main Street	South Leg I-15 Northbound Ramps	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 Northbound Ramps	East Leg Main Street	South Leg I-15 Northbound Ramps	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	1	0	1
4:15 PM	1	1	0	0	2
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	1	1	0	3

Location: Hesperia
N/S: I-15 Northbound Ramps
E/W: Main Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound I-15 Northbound Ramps			Westbound Main Street			Northbound I-15 Northbound Ramps			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-15 Northbound Ramps			Westbound Main Street			Northbound I-15 Northbound Ramps			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	13	0	6	3	19	5	125	4	0	134	0	0	6	2	6	4	190	0	0	194	5	353	358
07:15 AM	14	0	3	1	17	10	142	5	0	157	1	0	1	0	2	3	201	0	0	204	1	380	381
07:30 AM	7	0	4	1	11	4	154	5	0	163	0	0	2	1	2	3	235	0	0	238	2	414	416
07:45 AM	6	0	6	3	12	15	152	7	0	174	0	0	15	6	15	5	210	2	0	217	9	418	427
Total	40	0	19	8	59	34	573	21	0	628	1	0	24	9	25	15	836	2	0	853	17	1565	1582
08:00 AM	11	0	1	0	12	12	106	2	0	120	0	0	6	2	6	4	206	1	0	211	2	349	351
08:15 AM	12	0	2	0	14	19	149	7	0	175	4	1	14	6	19	1	220	4	0	225	6	433	439
08:30 AM	7	0	1	0	8	16	138	5	0	159	0	0	14	4	14	1	183	1	0	185	4	366	370
08:45 AM	9	0	3	1	12	15	113	5	0	133	1	1	19	7	21	2	231	2	0	235	8	401	409
Total	39	0	7	1	46	62	506	19	0	587	5	2	53	19	60	8	840	8	0	856	20	1549	1569
Grand Total	79	0	26	9	105	96	1079	40	0	1215	6	2	77	28	85	23	1676	10	0	1709	37	3114	3151
Apprch %	75.2	0	24.8			7.9	88.8	3.3			7.1	2.4	90.6			1.3	98.1	0.6					
Total %	2.5	0	0.8		3.4	3.1	34.6	1.3		39	0.2	0.1	2.5		2.7	0.7	53.8	0.3		54.9	1.2	98.8	
Passenger Vehicles	77	0	26		112	83	1018	37		1138	6	2	60		92	22	1613	10		1645	0	0	2987
% Passenger Vehicles	97.5	0	100	100	98.2	86.5	94.3	92.5	0	93.7	100	100	77.9	85.7	81.4	95.7	96.2	100	0	96.3	0	0	94.8
Large 2 Axle Vehicles	2	0	0		2	7	20	2		29	0	0	11		13	1	26	0		27	0	0	71
% Large 2 Axle Vehicles	2.5	0	0	0	1.8	7.3	1.9	5	0	2.4	0	0	14.3	7.1	11.5	4.3	1.6	0	0	1.6	0	0	2.3
3 Axle Vehicles	0	0	0		0	2	11	0		13	0	0	1		1	0	6	0		6	0	0	20
% 3 Axle Vehicles	0	0	0	0	0	2.1	1	0	0	1.1	0	0	1.3	0	0.9	0	0.4	0	0	0.4	0	0	0.6
4+ Axle Trucks	0	0	0		0	4	30	1		35	0	0	5		7	0	31	0		31	0	0	73
% 4+ Axle Trucks	0	0	0	0	0	4.2	2.8	2.5	0	2.9	0	0	6.5	7.1	6.2	0	1.8	0	0	1.8	0	0	2.3

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	7	0	4	11	4	**154**	5	163	0	0	2	2	3	**235**	0	**238**	414
07:45 AM	6	0	**6**	12	15	152	**7**	174	0	0	**15**	15	**5**	210	2	217	418
08:00 AM	11	0	1	12	12	106	2	120	0	0	6	6	4	206	1	211	349
08:15 AM	**12**	0	2	**14**	**19**	149	7	**175**	**4**	**1**	14	**19**	1	220	**4**	225	**433**
Total Volume	36	0	13	49	50	561	21	632	4	1	37	42	13	871	7	891	1614
% App. Total	73.5	0	26.5		7.9	88.8	3.3		9.5	2.4	88.1		1.5	97.8	0.8		
PHF	.750	.000	.542	.875	.658	.911	.750	.903	.250	.250	.617	.553	.650	.927	.438	.936	.932

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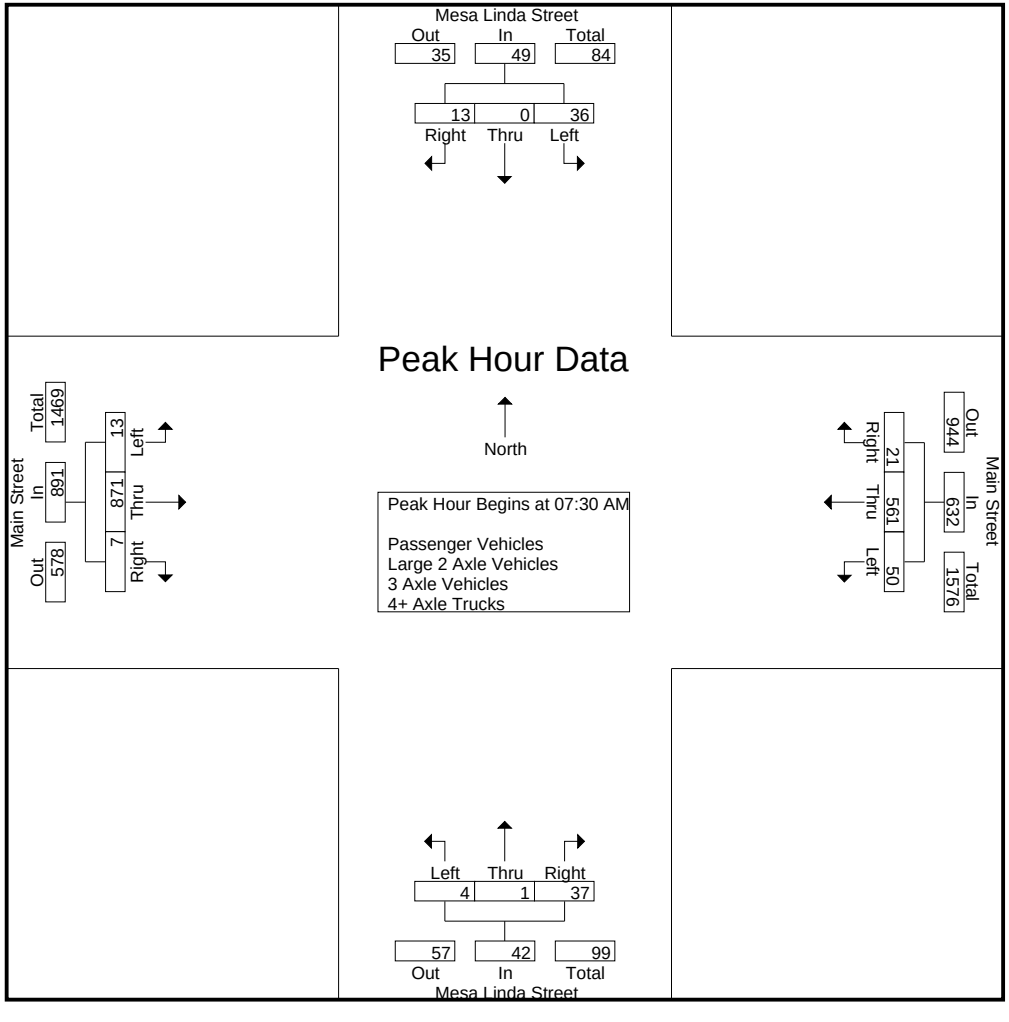
City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
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File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:30 AM				08:00 AM				07:30 AM				
+0 mins.	13	0	**6**	**19**	4	**154**	5	163	0	0	6	6	3	**235**	0	**238**	
+15 mins.	**14**	0	3	17	15	152	**7**	174	**4**	**1**	14	19	**5**	210	2	217	
+30 mins.	7	0	4	11	12	106	2	120	0	0	14	14	4	206	1	211	
+45 mins.	6	0	6	12	**19**	149	7	**175**	1	1	**19**	**21**	1	220	**4**	225	
Total Volume	40	0	19	59	50	561	21	632	5	2	53	60	13	871	7	891	
% App. Total	67.8	0	32.2		7.9	88.8	3.3		8.3	3.3	88.3		1.5	97.8	0.8		
PHF	.714	.000	.792	.776	.658	.911	.750	.903	.313	.500	.697	.714	.650	.927	.438	.936	

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File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Passenger Vehicles

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	13	0	6	3	19	4	111	4	0	119	0	0	3	1	3	4	177	0	0	181	4	322	326
07:15 AM	13	0	3	1	16	8	136	4	0	148	1	0	0	0	1	2	198	0	0	200	1	365	366
07:30 AM	7	0	4	1	11	3	143	5	0	151	0	0	2	1	2	3	224	0	0	227	2	391	393
07:45 AM	6	0	6	3	12	15	145	7	0	167	0	0	11	5	11	5	204	2	0	211	8	401	409
Total	39	0	19	8	58	30	535	20	0	585	1	0	16	7	17	14	803	2	0	819	15	1479	1494
08:00 AM	11	0	1	0	12	11	97	2	0	110	0	0	4	1	4	4	193	1	0	198	1	324	325
08:15 AM	12	0	2	0	14	18	144	7	0	169	4	1	13	6	18	1	216	4	0	221	6	422	428
08:30 AM	6	0	1	0	7	13	135	3	0	151	0	0	13	4	13	1	177	1	0	179	4	350	354
08:45 AM	9	0	3	1	12	11	107	5	0	123	1	1	14	6	16	2	224	2	0	228	7	379	386
Total	38	0	7	1	45	53	483	17	0	553	5	2	44	17	51	8	810	8	0	826	18	1475	1493
Grand Total	77	0	26	9	103	83	1018	37	0	1138	6	2	60	24	68	22	1613	10	0	1645	33	2954	2987
Apprch %	74.8	0	25.2			7.3	89.5	3.3			8.8	2.9	88.2			1.3	98.1	0.6					
Total %	2.6	0	0.9		3.5	2.8	34.5	1.3		38.5	0.2	0.1	2		2.3	0.7	54.6	0.3		55.7	1.1	98.9	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	7	0	4	11	3	143	5	151	0	0	2	2	3	**224**	0	**227**	391
07:45 AM	6	0	**6**	12	15	**145**	**7**	167	0	0	11	11	**5**	204	2	211	401
08:00 AM	11	0	1	12	11	97	2	110	0	0	4	4	4	193	1	198	324
08:15 AM	**12**	0	2	**14**	**18**	144	7	**169**	**4**	**1**	**13**	**18**	1	216	**4**	221	**422**
Total Volume	36	0	13	49	47	529	21	597	4	1	30	35	13	837	7	857	1538
% App. Total	73.5	0	26.5		7.9	88.6	3.5		11.4	2.9	85.7		1.5	97.7	0.8		
PHF	.750	.000	.542	.875	.653	.912	.750	.883	.250	.250	.577	.486	.650	.934	.438	.944	.911

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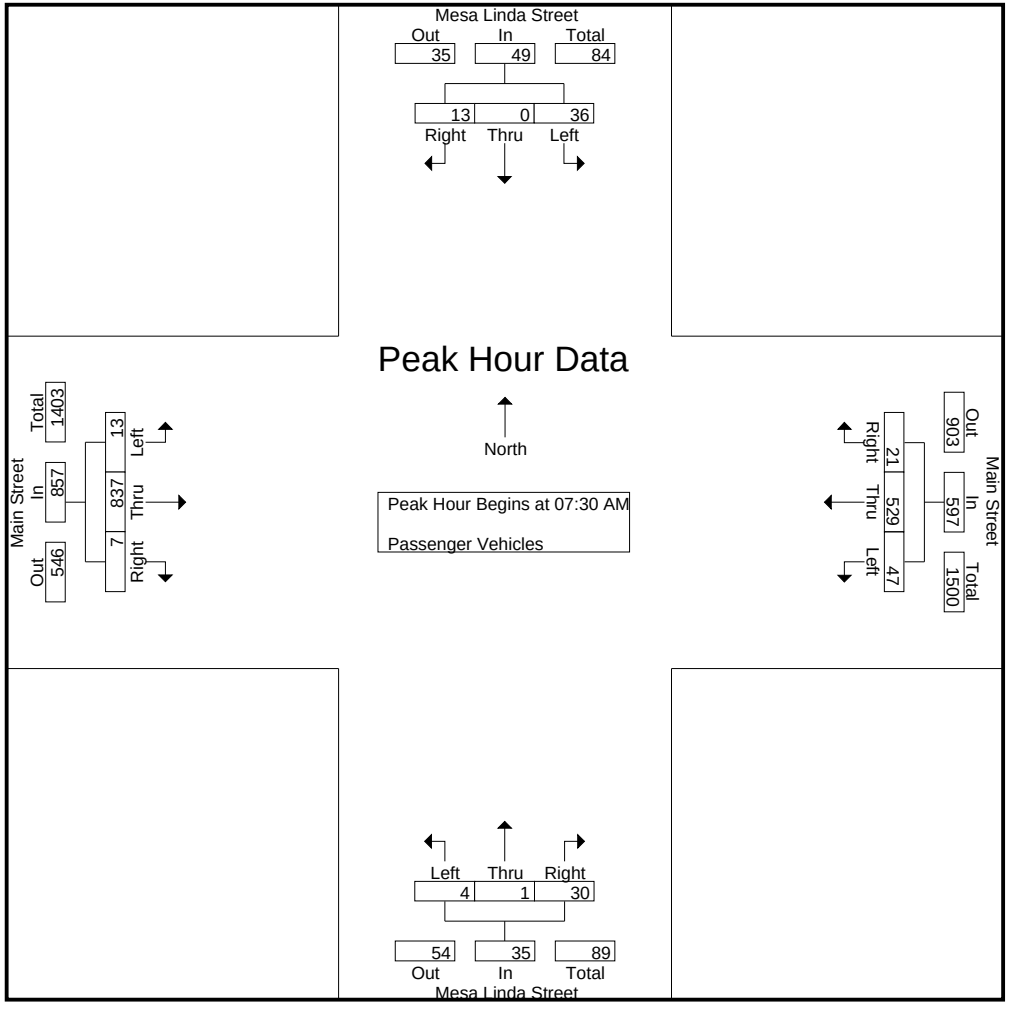
City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	7	0	4	11	3	143	5	151	0	0	2	2	3	**224**	0	**227**	
+15 mins.	6	0	**6**	12	15	**145**	**7**	167	0	0	11	11	**5**	204	2	211	
+30 mins.	11	0	1	12	11	97	2	110	0	0	4	4	4	193	1	198	
+45 mins.	**12**	0	2	**14**	**18**	144	7	**169**	**4**	**1**	**13**	**18**	1	216	**4**	221	
Total Volume	36	0	13	49	47	529	21	597	4	1	30	35	13	837	7	857	
% App. Total	73.5	0	26.5		7.9	88.6	3.5		11.4	2.9	85.7		1.5	97.7	0.8		
PHF	.750	.000	.542	.875	.653	.912	.750	.883	.250	.250	.577	.486	.650	.934	.438	.944	

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City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Large 2 Axle Vehicles

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	1	0	1	0	4	0	0	4	0	10	10
07:15 AM	1	0	0	0	1	1	4	1	0	6	0	0	1	0	1	1	2	0	0	3	0	11	11
07:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	9	9
07:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	3	0	0	3	0	7	7
Total	1	0	0	0	1	1	15	1	0	17	0	0	3	0	3	1	15	0	0	16	0	37	37
08:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	2	1	2	0	5	0	0	5	1	10	11
08:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	0	3	0	0	3	0	6	6
08:30 AM	1	0	0	0	1	1	1	1	0	3	0	0	1	0	1	0	1	0	0	1	0	6	6
08:45 AM	0	0	0	0	0	3	1	0	0	4	0	0	4	1	4	0	2	0	0	2	1	10	11
Total	1	0	0	0	1	6	5	1	0	12	0	0	8	2	8	0	11	0	0	11	2	32	34
Grand Total	2	0	0	0	2	7	20	2	0	29	0	0	11	2	11	1	26	0	0	27	2	69	71
Apprch %	100	0	0			24.1	69	6.9			0	0	100			3.7	96.3	0					
Total %	2.9	0	0		2.9	10.1	29	2.9		42	0	0	15.9		15.9	1.4	37.7	0		39.1	2.8	97.2	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	**6**	0	**6**	9
07:45 AM	0	0	0	0	0	3	0	3	0	0	1	1	0	3	0	3	7
08:00 AM	0	0	0	0	**1**	2	0	3	0	0	**2**	**2**	0	5	0	5	**10**
08:15 AM	0	0	0	0	1	1	0	2	0	0	1	1	0	3	0	3	6
Total Volume	0	0	0	0	2	9	0	11	0	0	4	4	0	17	0	17	32
% App. Total	0	0	0		18.2	81.8	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.500	.750	.000	.917	.000	.000	.500	.500	.000	.708	.000	.708	.800

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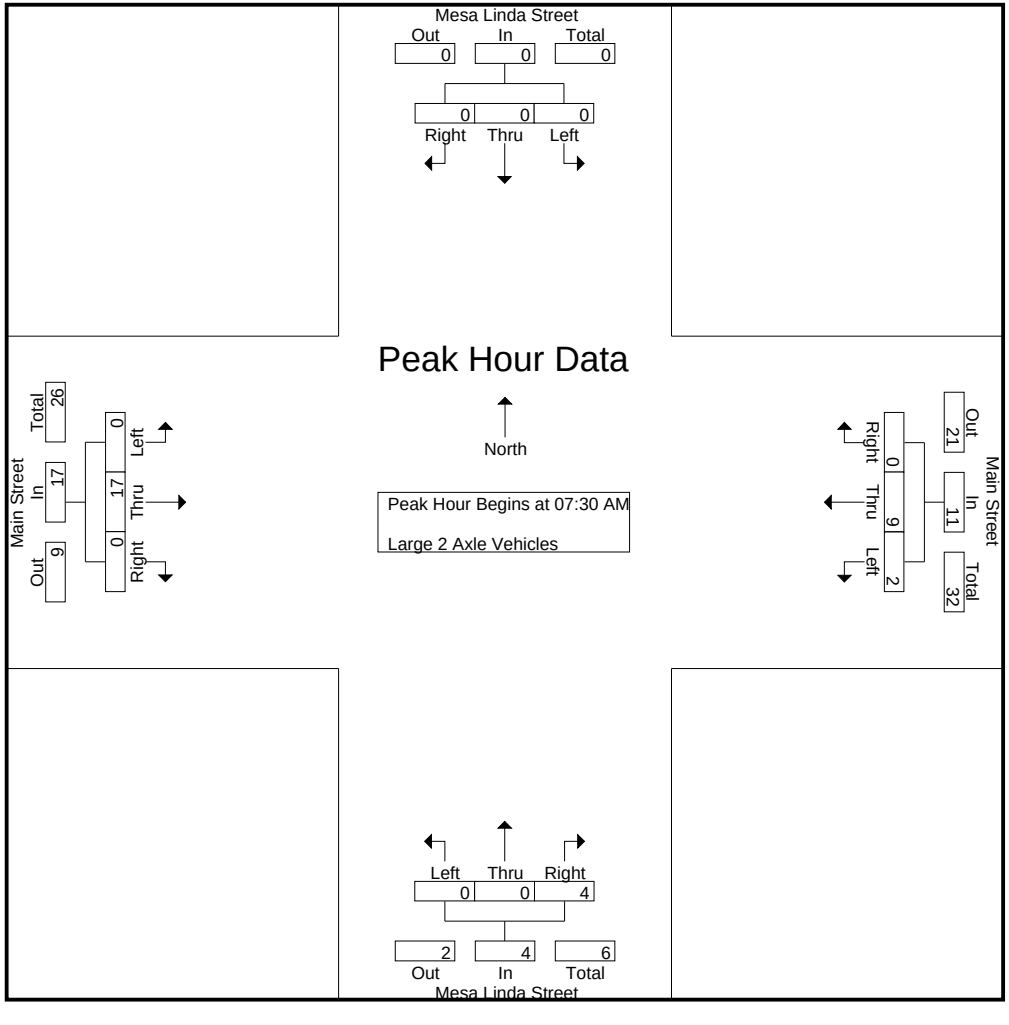
City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Mesa Linda Street
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Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	**6**	0	**6**	
+15 mins.	0	0	0	0	0	3	0	3	0	0	1	1	0	3	0	3	
+30 mins.	0	0	0	0	**1**	2	0	3	0	0	**2**	**2**	0	5	0	5	
+45 mins.	0	0	0	0	1	1	0	2	0	0	1	1	0	3	0	3	
Total Volume	0	0	0	0	2	9	0	11	0	0	4	4	0	17	0	17	
% App. Total	0	0	0		18.2	81.8	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.500	.750	.000	.917	.000	.000	.500	.500	.000	.708	.000	.708	

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City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 3 Axle Vehicles

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
07:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	4	4
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
Total	0	0	0	0	0	1	5	0	0	6	0	0	1	0	1	0	2	0	0	2	0	9	9
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	3	3
08:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
08:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	4	4
Total	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	4	0	0	4	0	11	11
Grand Total	0	0	0	0	0	2	11	0	0	13	0	0	1	0	1	0	6	0	0	6	0	20	20
Apprch %	0	0	0			15.4	84.6	0			0	0	100			0	100	0					
Total %	0	0	0		0	10	55	0		65	0	0	5		5	0	30	0		30	0	100	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	1	0	1	**4**
07:45 AM	0	0	0	0	0	1	0	1	0	0	**1**	**1**	0	0	0	0	2
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**2**	0	**2**	3
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	7	0	7	0	0	1	1	0	3	0	3	11
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.583	.000	.583	.000	.000	.250	.250	.000	.375	.000	.375	.688

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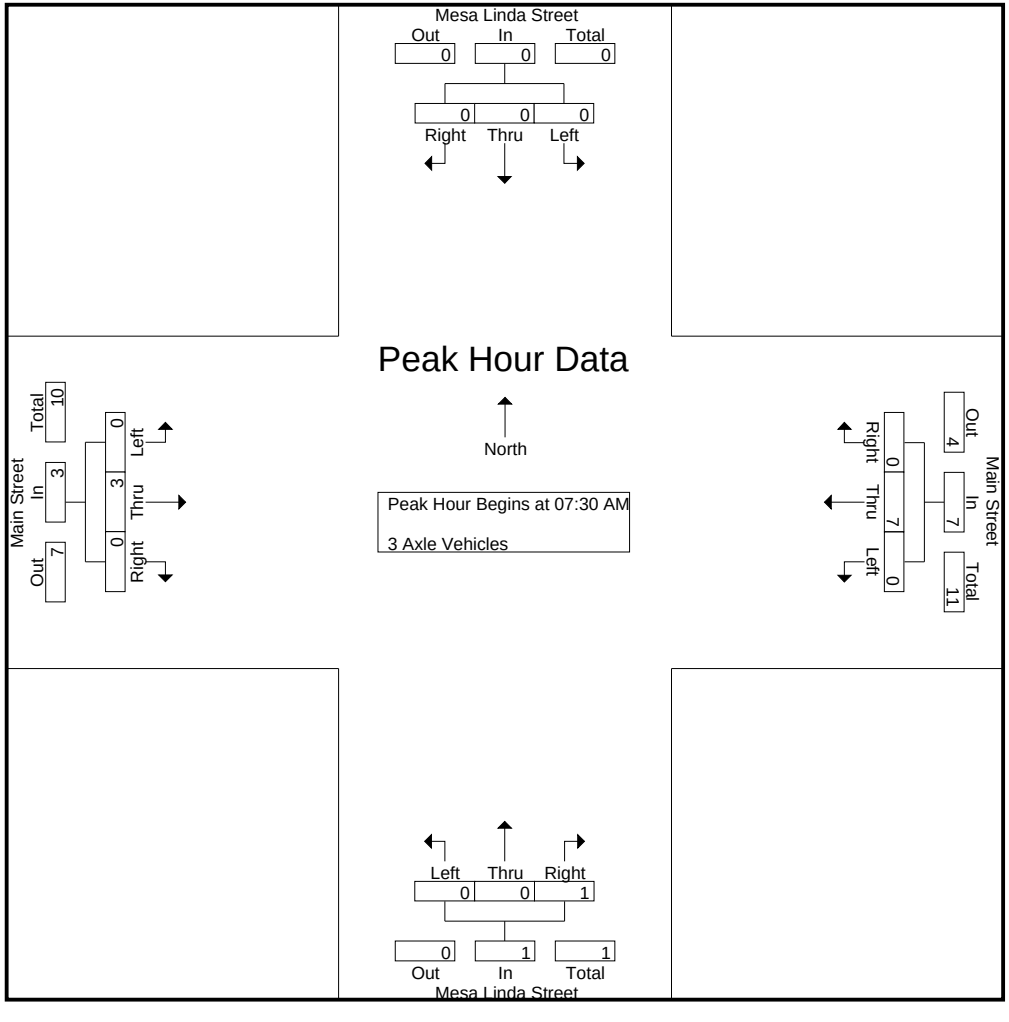
City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	1	0	1	
+15 mins.	0	0	0	0	0	1	0	1	0	0	**1**	**1**	0	0	0	0	
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**2**	0	**2**	
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	7	0	7	0	0	1	1	0	3	0	3	
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.583	.000	.583	.000	.000	.250	.250	.000	.375	.000	.375	

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City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 4+ Axle Trucks

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	1	8	0	0	9	0	0	2	1	2	0	9	0	0	9	1	20	21
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
07:30 AM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	4	0	0	4	0	10	10
07:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	2	1	2	0	3	0	0	3	1	8	9
Total	0	0	0	0	0	2	18	0	0	20	0	0	4	2	4	0	16	0	0	16	2	40	42
08:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	12	12
08:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	3	3
08:30 AM	0	0	0	0	0	2	1	1	0	4	0	0	0	0	0	0	4	0	0	4	0	8	8
08:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	4	0	0	4	0	8	8
Total	0	0	0	0	0	2	12	1	0	15	0	0	1	0	1	0	15	0	0	15	0	31	31
Grand Total	0	0	0	0	0	4	30	1	0	35	0	0	5	2	5	0	31	0	0	31	2	71	73
Apprch %	0	0	0			11.4	85.7	2.9			0	0	100			0	100	0					
Total %	0	0	0		0	5.6	42.3	1.4		49.3	0	0	7		7	0	43.7	0		43.7	2.7	97.3	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	**1**	5	0	**6**	0	0	0	0	0	4	0	4	10
07:45 AM	0	0	0	0	0	3	0	3	0	0	**2**	**2**	0	3	0	3	8
08:00 AM	0	0	0	0	0	**6**	0	6	0	0	0	0	0	**6**	0	**6**	**12**
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total Volume	0	0	0	0	1	16	0	17	0	0	2	2	0	14	0	14	33
% App. Total	0	0	0		5.9	94.1	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.250	.667	.000	.708	.000	.000	.250	.250	.000	.583	.000	.583	.688

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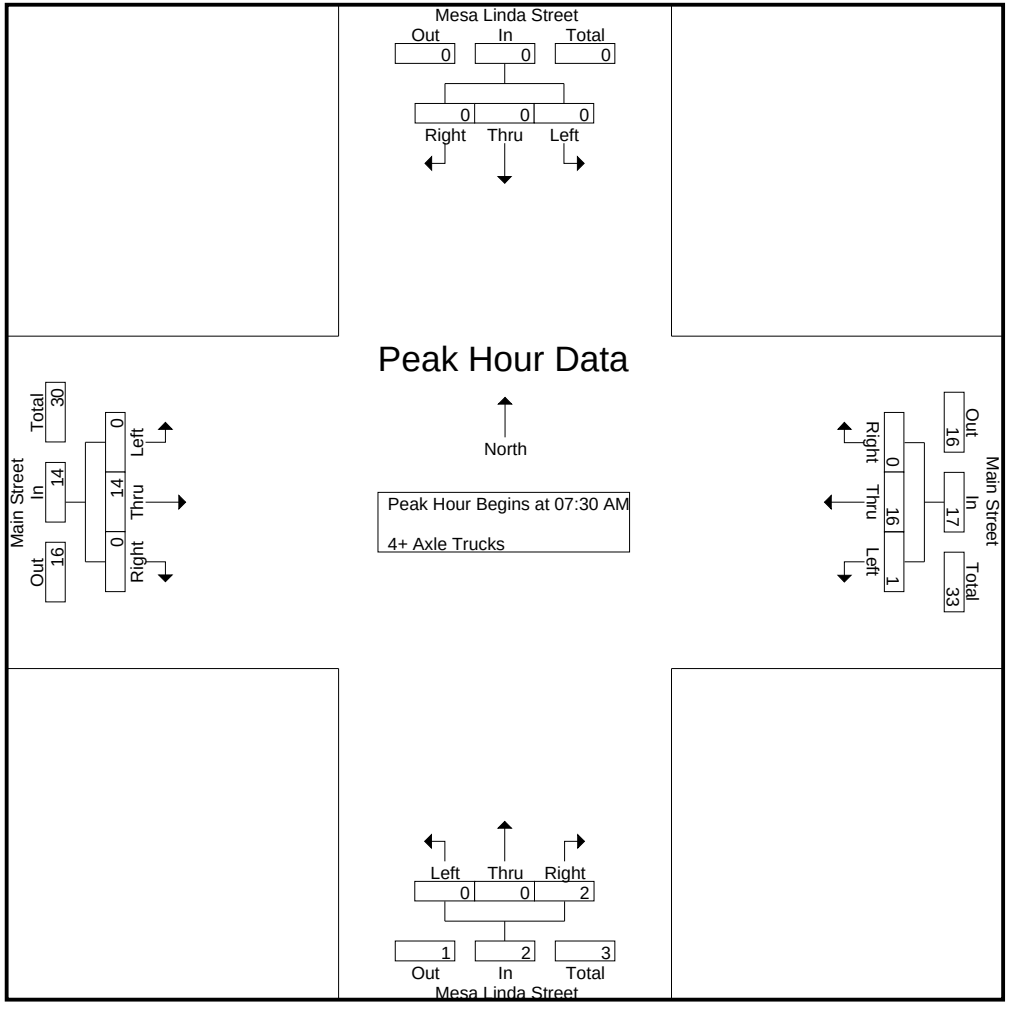

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Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	0	0	**1**	5	0	**6**	0	0	0	0	0	4	0	4	
+15 mins.	0	0	0	0	0	3	0	3	0	0	**2**	**2**	0	3	0	3	
+30 mins.	0	0	0	0	0	**6**	0	6	0	0	0	0	0	**6**	0	**6**	
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	
Total Volume	0	0	0	0	1	16	0	17	0	0	2	2	0	14	0	14	
% App. Total	0	0	0		5.9	94.1	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.250	.667	.000	.708	.000	.000	.250	.250	.000	.583	.000	.583	

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City of Hesperia
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File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	1	0	2	21	203	9	0	233	7	1	29	8	37	4	192	1	0	197	8	469	477
04:15 PM	6	0	2	1	8	19	200	7	0	226	9	2	55	21	66	3	241	10	1	254	23	554	577
04:30 PM	6	0	0	0	6	11	182	12	1	205	8	0	48	16	56	2	196	3	0	201	17	468	485
04:45 PM	5	2	1	1	8	11	170	6	0	187	7	1	20	7	28	6	165	3	0	174	8	397	405
Total	18	2	4	2	24	62	755	34	1	851	31	4	152	52	187	15	794	17	1	826	56	1888	1944
05:00 PM	6	0	0	0	6	8	182	10	0	200	9	3	28	6	40	3	210	1	0	214	6	460	466
05:15 PM	5	2	0	0	7	8	195	6	0	209	25	2	35	10	62	0	211	4	0	215	10	493	503
05:30 PM	3	0	0	0	3	12	181	14	0	207	8	0	29	11	37	1	176	4	0	181	11	428	439
05:45 PM	8	0	4	1	12	12	209	14	0	235	11	0	38	16	49	2	168	6	0	176	17	472	489
Total	22	2	4	1	28	40	767	44	0	851	53	5	130	43	188	6	765	15	0	786	44	1853	1897
Grand Total	40	4	8	3	52	102	1522	78	1	1702	84	9	282	95	375	21	1559	32	1	1612	100	3741	3841
Apprch %	76.9	7.7	15.4			6	89.4	4.6			22.4	2.4	75.2			1.3	96.7	2					
Total %	1.1	0.1	0.2		1.4	2.7	40.7	2.1		45.5	2.2	0.2	7.5		10	0.6	41.7	0.9		43.1	2.6	97.4	
Passenger Vehicles	39	4	8		54	98	1488	76		1663	82	9	274		458	21	1509	31		1562	0	0	3737
% Passenger Vehicles	97.5	100	100	100	98.2	96.1	97.8	97.4	100	97.7	97.6	100	97.2	97.9	97.4	100	96.8	96.9	100	96.8	0	0	97.3
Large 2 Axle Vehicles	1	0	0		1	0	8	2		10	0	0	1		1	0	15	0		15	0	0	27
% Large 2 Axle Vehicles	2.5	0	0	0	1.8	0	0.5	2.6	0	0.6	0	0	0.4	0	0.2	0	1	0	0	0.9	0	0	0.7
3 Axle Vehicles	0	0	0		0	1	6	0		7	0	0	1		1	0	5	0		5	0	0	13
% 3 Axle Vehicles	0	0	0	0	0	1	0.4	0	0	0.4	0	0	0.4	0	0.2	0	0.3	0	0	0.3	0	0	0.3
4+ Axle Trucks	0	0	0		0	3	20	0		23	2	0	6		10	0	30	1		31	0	0	64
% 4+ Axle Trucks	0	0	0	0	0	2.9	1.3	0	0	1.4	2.4	0	2.1	2.1	2.1	0	1.9	3.1	0	1.9	0	0	1.7

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	1	2	**21**	**203**	9	**233**	7	1	29	37	4	192	1	197	469
04:15 PM	**6**	0	**2**	**8**	19	200	7	226	**9**	**2**	**55**	**66**	3	**241**	**10**	**254**	**554**
04:30 PM	6	0	0	6	11	182	**12**	205	8	0	48	56	2	196	3	201	468
04:45 PM	5	**2**	1	8	11	170	6	187	7	1	20	28	**6**	165	3	174	397
Total Volume	18	2	4	24	62	755	34	851	31	4	152	187	15	794	17	826	1888
% App. Total	75	8.3	16.7		7.3	88.7	4		16.6	2.1	81.3		1.8	96.1	2.1		
PHF	.750	.250	.500	.750	.738	.930	.708	.913	.861	.500	.691	.708	.625	.824	.425	.813	.852

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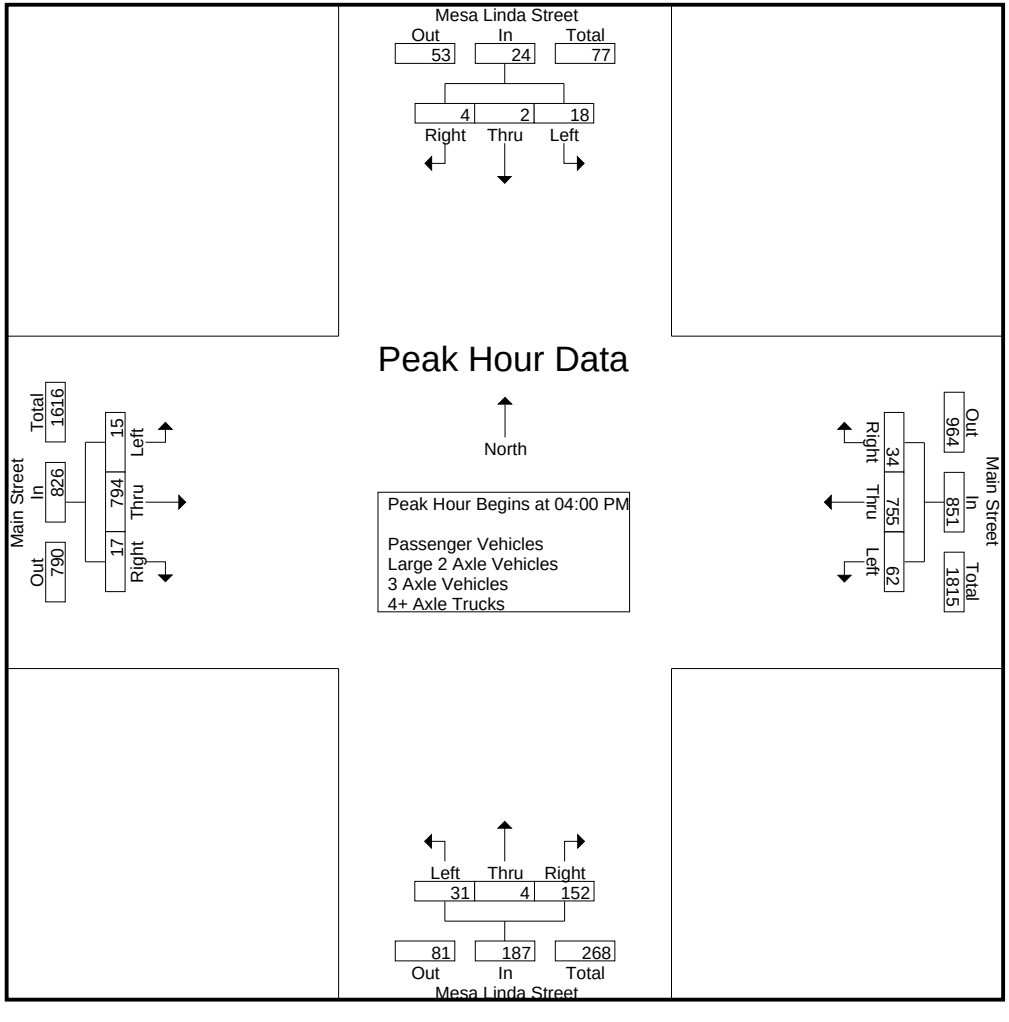
City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:00 PM				04:15 PM				04:15 PM				
+0 mins.	**6**	0	**2**	**8**	**21**	**203**	9	**233**	**9**	2	**55**	**66**	3	**241**	**10**	**254**	
+15 mins.	6	0	0	6	19	200	7	226	8	0	48	56	2	196	3	201	
+30 mins.	5	**2**	1	8	11	182	**12**	205	7	1	20	28	**6**	165	3	174	
+45 mins.	6	0	0	6	11	170	6	187	9	**3**	28	40	3	210	1	214	
Total Volume	23	2	3	28	62	755	34	851	33	6	151	190	14	812	17	843	
% App. Total	82.1	7.1	10.7		7.3	88.7	4		17.4	3.2	79.5		1.7	96.3	2		
PHF	.958	.250	.375	.875	.738	.930	.708	.913	.917	.500	.686	.720	.583	.842	.425	.830	

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File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Passenger Vehicles

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	1	0	2	21	197	9	0	227	6	1	27	7	34	4	183	1	0	188	7	451	458
04:15 PM	5	0	2	1	7	18	194	6	0	218	9	2	55	21	66	3	237	10	1	250	23	541	564
04:30 PM	6	0	0	0	6	10	176	12	1	198	8	0	48	16	56	2	188	3	0	193	17	453	470
04:45 PM	5	2	1	1	8	10	165	6	0	181	7	1	20	7	28	6	160	3	0	169	8	386	394
Total	17	2	4	2	23	59	732	33	1	824	30	4	150	51	184	15	768	17	1	800	55	1831	1886
05:00 PM	6	0	0	0	6	8	180	10	0	198	9	3	25	5	37	3	205	1	0	209	5	450	455
05:15 PM	5	2	0	0	7	7	194	6	0	207	25	2	32	10	59	0	200	4	0	204	10	477	487
05:30 PM	3	0	0	0	3	12	176	13	0	201	7	0	29	11	36	1	171	4	0	176	11	416	427
05:45 PM	8	0	4	1	12	12	206	14	0	232	11	0	38	16	49	2	165	5	0	172	17	465	482
Total	22	2	4	1	28	39	756	43	0	838	52	5	124	42	181	6	741	14	0	761	43	1808	1851
Grand Total	39	4	8	3	51	98	1488	76	1	1662	82	9	274	93	365	21	1509	31	1	1561	98	3639	3737
Apprch %	76.5	7.8	15.7			5.9	89.5	4.6			22.5	2.5	75.1			1.3	96.7	2					
Total %	1.1	0.1	0.2		1.4	2.7	40.9	2.1		45.7	2.3	0.2	7.5		10	0.6	41.5	0.9		42.9	2.6	97.4	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	1	2	**21**	**197**	9	**227**	6	1	27	34	4	183	1	188	451
04:15 PM	5	0	**2**	7	18	194	6	218	**9**	**2**	**55**	**66**	3	**237**	**10**	**250**	**541**
04:30 PM	**6**	0	0	6	10	176	**12**	198	8	0	48	56	2	188	3	193	453
04:45 PM	5	**2**	1	**8**	10	165	6	181	7	1	20	28	**6**	160	3	169	386
Total Volume	17	2	4	23	59	732	33	824	30	4	150	184	15	768	17	800	1831
% App. Total	73.9	8.7	17.4		7.2	88.8	4		16.3	2.2	81.5		1.9	96	2.1		
PHF	.708	.250	.500	.719	.702	.929	.688	.907	.833	.500	.682	.697	.625	.810	.425	.800	.846

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File Name : 07_HES_ML_Main PM
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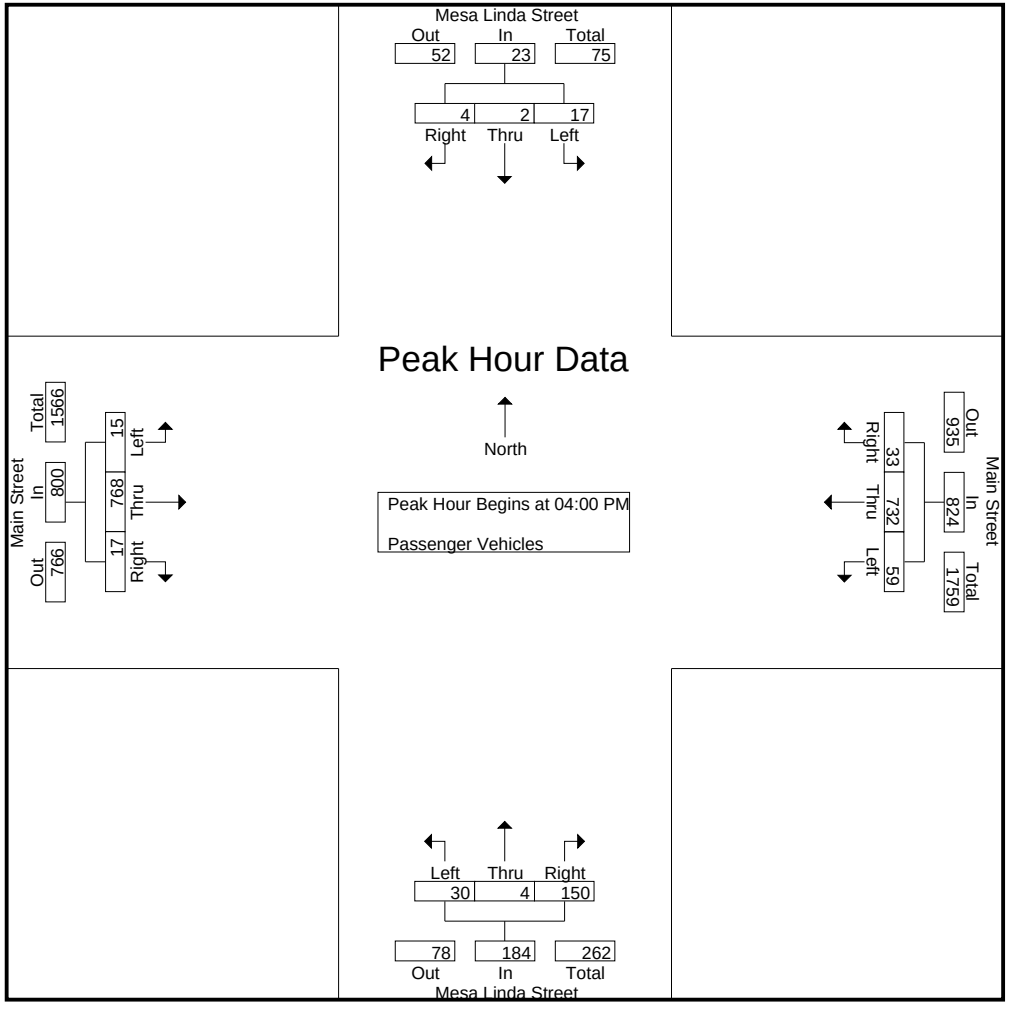

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File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	1	0	1	2	**21**	**197**	9	**227**	6	1	27	34	4	183	1	188	
+15 mins.	5	0	**2**	7	18	194	6	218	**9**	**2**	**55**	**66**	3	**237**	**10**	**250**	
+30 mins.	**6**	0	0	6	10	176	**12**	198	8	0	48	56	2	188	3	193	
+45 mins.	5	**2**	1	**8**	10	165	6	181	7	1	20	28	**6**	160	3	169	
Total Volume	17	2	4	23	59	732	33	824	30	4	150	184	15	768	17	800	
% App. Total	73.9	8.7	17.4		7.2	88.8	4		16.3	2.2	81.5		1.9	96	2.1		
PHF	.708	.250	.500	.719	.702	.929	.688	.907	.833	.500	.682	.697	.625	.810	.425	.800	

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City of Hesperia
N/S: Mesa Linda Street
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Weather: Clear

File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Large 2 Axle Vehicles

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
04:15 PM	1	0	0	0	1	0	3	1	0	4	0	0	0	0	0	0	1	0	0	1	0	6	6
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	4	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Total	1	0	0	0	1	0	6	1	0	7	0	0	0	0	0	0	8	0	0	8	0	16	16
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5	0	0	5	0	6	6
05:30 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	1	0	0	1	0	4	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	0	7	0	0	7	0	11	11
Grand Total	1	0	0	0	1	0	8	2	0	10	0	0	1	0	1	0	15	0	0	15	0	27	27
Apprch %	100	0	0			0	80	20			0	0	100			0	100	0					
Total %	3.7	0	0		3.7	0	29.6	7.4		37	0	0	3.7		3.7	0	55.6	0		55.6	0	100	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**3**	0	**3**	5
04:15 PM	**1**	0	0	**1**	0	**3**	**1**	**4**	0	0	0	0	0	1	0	1	**6**
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	0	1	0	6	1	7	0	0	0	0	0	8	0	8	16
% App. Total	100	0	0		0	85.7	14.3		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.500	.250	.438	.000	.000	.000	.000	.000	.667	.000	.667	.667

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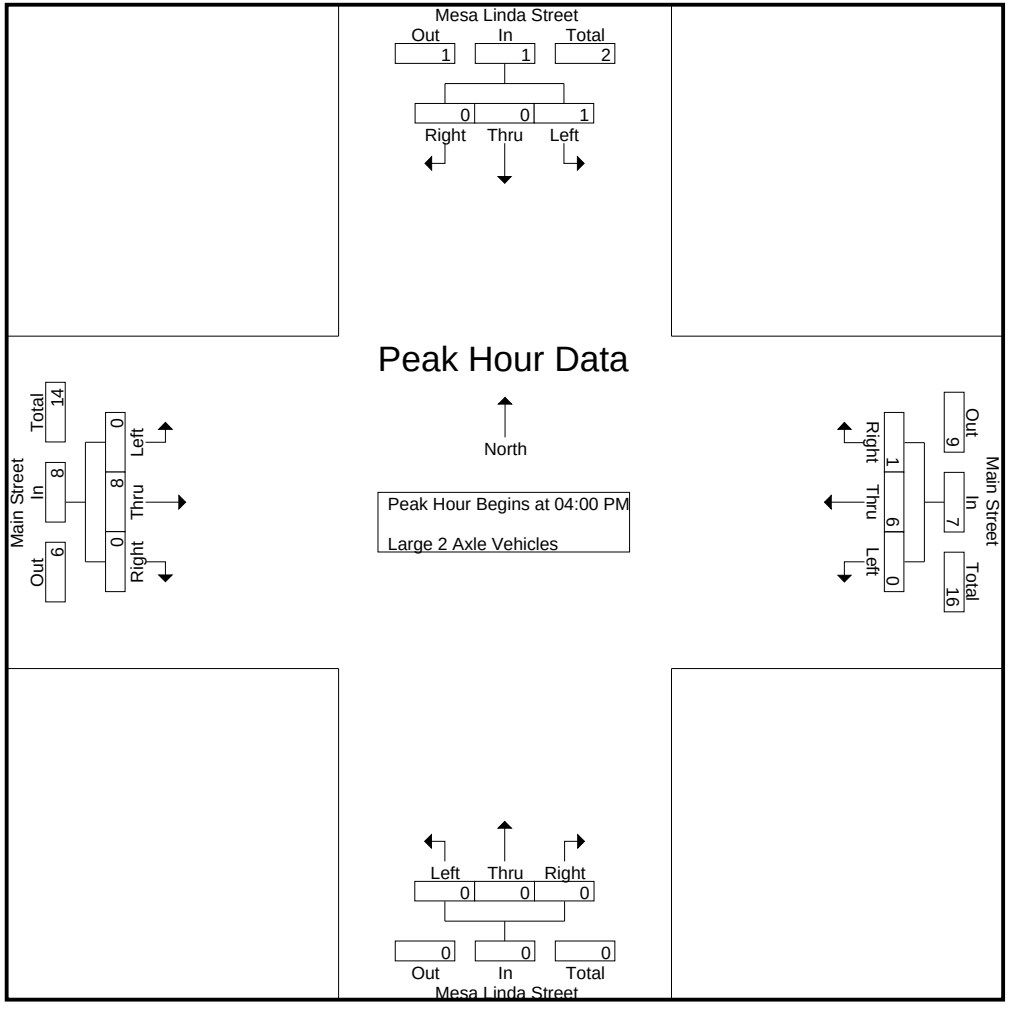

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	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	**3**	0	**3**	
+15 mins.	**1**	0	0	**1**	0	**3**	**1**	**4**	0	0	0	0	0	1	0	1	
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
Total Volume	1	0	0	1	0	6	1	7	0	0	0	0	0	8	0	8	
% App. Total	100	0	0		0	85.7	14.3		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.500	.250	.438	.000	.000	.000	.000	.000	.667	.000	.667	

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File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 3 Axle Vehicles

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	3	3
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	2	0	0	2	0	8	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	3	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	3	0	0	3	0	5	5
Grand Total	0	0	0	0	0	1	6	0	0	7	0	0	1	0	1	0	5	0	0	5	0	13	13
Apprch %	0	0	0			14.3	85.7	0			0	0	100			0	100	0					
Total %	0	0	0		0	7.7	46.2	0		53.8	0	0	7.7		7.7	0	38.5	0		38.5	0	100	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**2**	0	2	0	0	0	0	0	**1**	0	**1**	**3**
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
04:30 PM	0	0	0	0	**1**	2	0	**3**	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	5	0	6	0	0	0	0	0	2	0	2	8
% App. Total	0	0	0		16.7	83.3	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.250	.625	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.667

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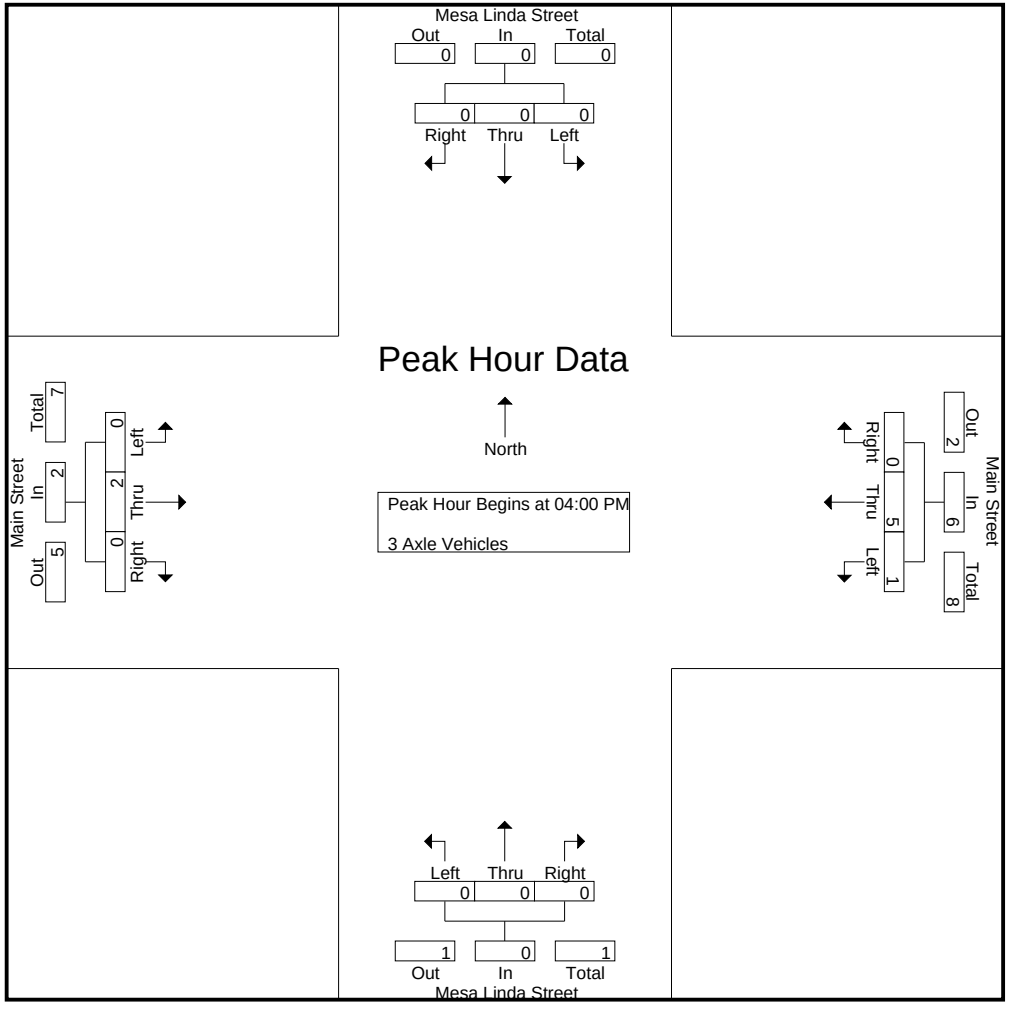

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	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	**2**	0	2	0	0	0	0	0	**1**	0	**1**	
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	
+30 mins.	0	0	0	0	**1**	2	0	**3**	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	1	5	0	6	0	0	0	0	0	2	0	2	
% App. Total	0	0	0		16.7	83.3	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.250	.625	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	

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PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Mesa Linda Street
E/W: Main Street
Weather: Clear

File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 4+ Axle Trucks

	Mesa Linda Street Southbound					Main Street Westbound					Mesa Linda Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	1	0	2	1	3	0	5	0	0	5	1	10	11
04:15 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	0	5	5
04:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	0	8	8
04:45 PM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	4	0	0	4	0	10	10
Total	0	0	0	0	0	2	12	0	0	14	1	0	2	1	3	0	16	0	0	16	1	33	34
05:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	3	1	3	0	3	0	0	3	1	8	9
05:15 PM	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	0	4	0	0	4	0	7	7
05:30 PM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	4	0	0	4	0	7	7
05:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	0	7	7
Total	0	0	0	0	0	1	8	0	0	9	1	0	4	1	5	0	14	1	0	15	1	29	30
Grand Total	0	0	0	0	0	3	20	0	0	23	2	0	6	2	8	0	30	1	0	31	2	62	64
Apprch %	0	0	0			13	87	0			25	0	75			0	96.8	3.2					
Total %	0	0	0		0	4.8	32.3	0		37.1	3.2	0	9.7		12.9	0	48.4	1.6		50	3.1	96.9	

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	2	0	2	**1**	0	**2**	**3**	0	**5**	0	**5**	**10**
04:15 PM	0	0	0	0	**1**	2	0	3	0	0	0	0	0	2	0	2	5
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	5	0	5	8
04:45 PM	0	0	0	0	1	**5**	0	**6**	0	0	0	0	0	4	0	4	10
Total Volume	0	0	0	0	2	12	0	14	1	0	2	3	0	16	0	16	33
% App. Total	0	0	0		14.3	85.7	0		33.3	0	66.7		0	100	0		
PHF	.000	.000	.000	.000	.500	.600	.000	.583	.250	.000	.250	.250	.000	.800	.000	.800	.825

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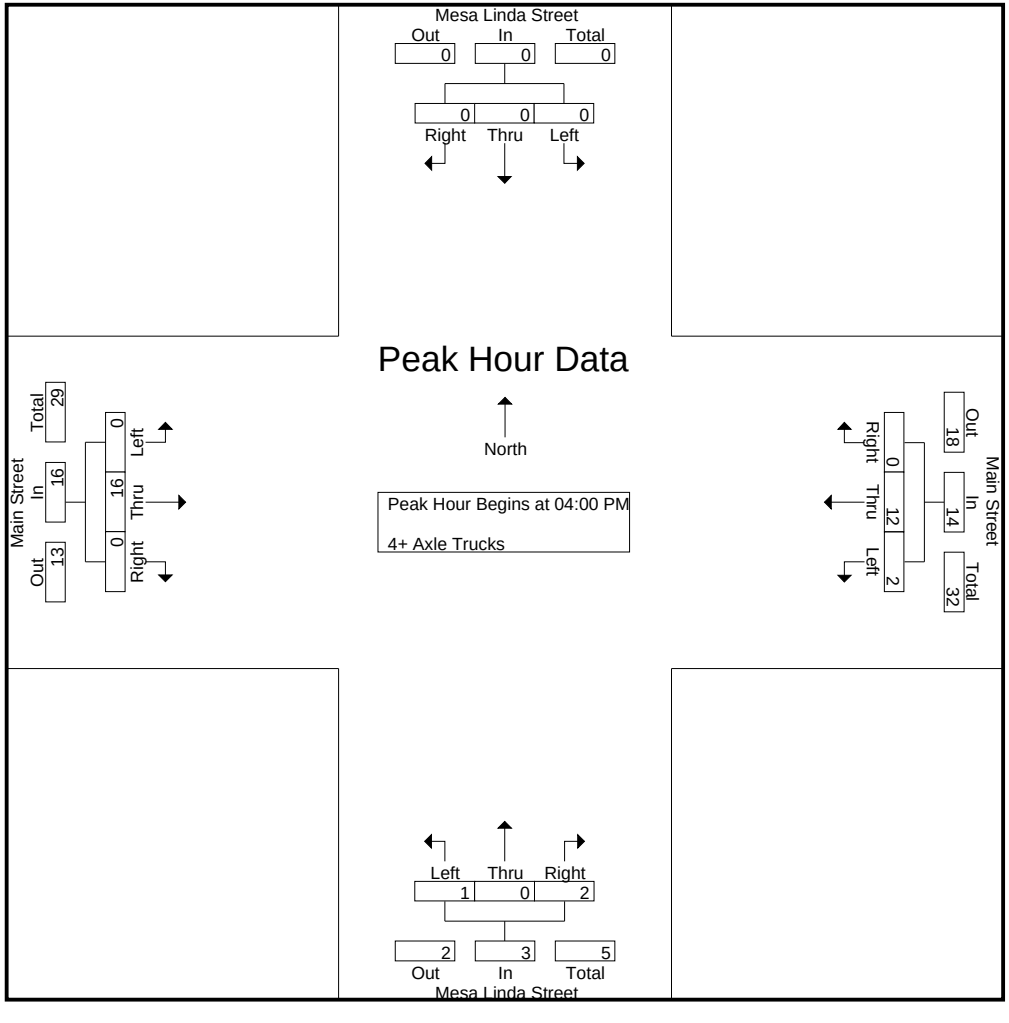
File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: Mesa Linda Street
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File Name : 07_HES_ML_Main PM
Site Code : 05125030
Start Date : 2/11/2025

	Mesa Linda Street Southbound				Main Street Westbound				Mesa Linda Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	2	0	2	**1**	0	**2**	**3**	0	**5**	0	**5**	
+15 mins.	0	0	0	0	**1**	2	0	3	0	0	0	0	0	2	0	2	
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	5	0	5	
+45 mins.	0	0	0	0	1	**5**	0	**6**	0	0	0	0	0	4	0	4	
Total Volume	0	0	0	0	2	12	0	14	1	0	2	3	0	16	0	16	
% App. Total	0	0	0		14.3	85.7	0		33.3	0	66.7		0	100	0		
PHF	.000	.000	.000	.000	.500	.600	.000	.583	.250	.000	.250	.250	.000	.800	.000	.800	

Location: Hesperia
N/S: Mesa Linda Street
E/W: Main Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg Mesa Linda Street	East Leg Main Street	South Leg Mesa Linda Street	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	2	0	2

	North Leg Mesa Linda Street	East Leg Main Street	South Leg Mesa Linda Street	West Leg Main Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: Mesa Linda Street
E/W: Main Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound Mesa Linda Street			Westbound Main Street			Northbound Mesa Linda Street			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Mesa Linda Street			Westbound Main Street			Northbound Mesa Linda Street			Eastbound Main Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

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City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	2	0	4	0	0	1	1	0	2	1	3	8
07:15 AM	0	0	0	0	5	1	0	6	1	0	1	2	0	0	1	1	9
07:30 AM	0	0	0	0	5	1	0	6	2	0	1	3	0	1	2	3	12
07:45 AM	0	0	0	0	12	1	0	13	2	0	5	7	0	2	10	12	32
Total	0	0	0	0	24	5	0	29	5	0	8	13	0	5	14	19	61
08:00 AM	0	0	0	0	11	1	0	12	4	0	4	8	0	1	3	4	24
08:15 AM	0	0	0	0	14	4	0	18	5	0	8	13	0	2	7	9	40
08:30 AM	0	0	0	0	15	0	0	15	5	0	10	15	0	1	4	5	35
08:45 AM	0	0	0	0	10	0	0	10	8	0	10	18	0	4	4	8	36
Total	0	0	0	0	50	5	0	55	22	0	32	54	0	8	18	26	135
Grand Total	0	0	0	0	74	10	0	84	27	0	40	67	0	13	32	45	196
Apprch %	0	0	0		88.1	11.9	0		40.3	0	59.7		0	28.9	71.1		
Total %	0	0	0	0	37.8	5.1	0	42.9	13.8	0	20.4	34.2	0	6.6	16.3	23	
Passenger Vehicles	0	0	0	0	62	10	0	72	24	0	30	54	0	11	27	38	164
% Passenger Vehicles	0	0	0	0	83.8	100	0	85.7	88.9	0	75	80.6	0	84.6	84.4	84.4	83.7
Large 2 Axle Vehicles	0	0	0	0	7	0	0	7	2	0	7	9	0	2	4	6	22
% Large 2 Axle Vehicles	0	0	0	0	9.5	0	0	8.3	7.4	0	17.5	13.4	0	15.4	12.5	13.3	11.2
3 Axle Vehicles	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
% 3 Axle Vehicles	0	0	0	0	1.4	0	0	1.2	0	0	2.5	1.5	0	0	0	0	1
4+ Axle Trucks	0	0	0	0	4	0	0	4	1	0	2	3	0	0	1	1	8
% 4+ Axle Trucks	0	0	0	0	5.4	0	0	4.8	3.7	0	5	4.5	0	0	3.1	2.2	4.1

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	11	1	0	12	4	0	4	8	0	1	3	4	24
08:15 AM	0	0	0	0	14	**4**	0	**18**	5	0	8	13	0	2	**7**	**9**	**40**
08:30 AM	0	0	0	0	**15**	0	0	15	5	0	**10**	15	0	1	4	5	35
08:45 AM	0	0	0	0	10	0	0	10	**8**	0	10	**18**	0	**4**	4	8	36
Total Volume	0	0	0	0	50	5	0	55	22	0	32	54	0	8	18	26	135
% App. Total	0	0	0		90.9	9.1	0		40.7	0	59.3		0	30.8	69.2		
PHF	.000	.000	.000	.000	.833	.313	.000	.764	.688	.000	.800	.750	.000	.500	.643	.722	.844

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City of Hesperia
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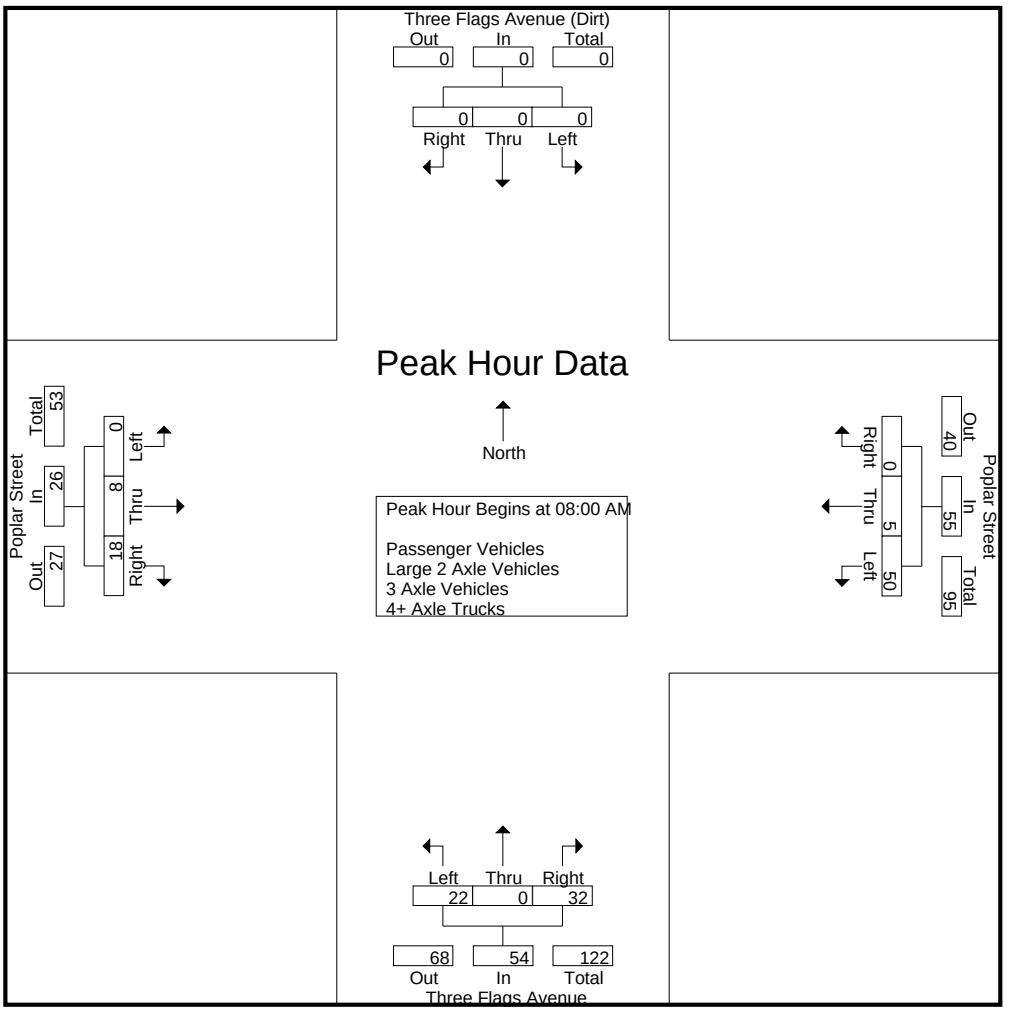
Weather: Clear

File Name : 08_HES_3F_Pop AM
Site Code : 05125030
Start Date : 2/11/2025



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				08:00 AM				07:45 AM			
+0 mins.	0	0	0	0	12	1	0	13	4	0	4	8	0	**2**	**10**	**12**
+15 mins.	0	0	0	0	11	1	0	12	5	0	8	13	0	1	3	4
+30 mins.	0	0	0	0	14	**4**	0	**18**	5	0	**10**	15	0	2	7	9
+45 mins.	0	0	0	0	**15**	0	0	15	**8**	0	10	**18**	0	1	4	5
Total Volume	0	0	0	0	52	6	0	58	22	0	32	54	0	6	24	30
% App. Total	0	0	0		89.7	10.3	0		40.7	0	59.3		0	20	80	
PHF	.000	.000	.000	.000	.867	.375	.000	.806	.688	.000	.800	.750	.000	.750	.600	.625

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File Name : 08_HES_3F_Pop AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	2	0	3	0	0	1	1	0	1	1	2	6
07:15 AM	0	0	0	0	3	1	0	4	1	0	0	1	0	0	0	0	5
07:30 AM	0	0	0	0	5	1	0	6	0	0	1	1	0	1	2	3	10
07:45 AM	0	0	0	0	11	1	0	12	2	0	3	5	0	1	9	10	27
Total	0	0	0	0	20	5	0	25	3	0	5	8	0	3	12	15	48
08:00 AM	0	0	0	0	10	1	0	11	4	0	3	7	0	1	2	3	21
08:15 AM	0	0	0	0	14	4	0	18	5	0	7	12	0	2	7	9	39
08:30 AM	0	0	0	0	12	0	0	12	5	0	9	14	0	1	3	4	30
08:45 AM	0	0	0	0	6	0	0	6	7	0	6	13	0	4	3	7	26
Total	0	0	0	0	42	5	0	47	21	0	25	46	0	8	15	23	116
Grand Total	0	0	0	0	62	10	0	72	24	0	30	54	0	11	27	38	164
Apprch %	0	0	0		86.1	13.9	0		44.4	0	55.6		0	28.9	71.1		
Total %	0	0	0	0	37.8	6.1	0	43.9	14.6	0	18.3	32.9	0	6.7	16.5	23.2	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	10	1	0	11	4	0	3	7	0	1	2	3	21
08:15 AM	0	0	0	0	**14**	**4**	0	**18**	5	0	7	12	0	2	**7**	**9**	**39**
08:30 AM	0	0	0	0	12	0	0	12	5	0	**9**	**14**	0	1	3	4	30
08:45 AM	0	0	0	0	6	0	0	6	**7**	0	6	13	0	**4**	3	7	26
Total Volume	0	0	0	0	42	5	0	47	21	0	25	46	0	8	15	23	116
% App. Total	0	0	0		89.4	10.6	0		45.7	0	54.3		0	34.8	65.2		
PHF	.000	.000	.000	.000	.750	.313	.000	.653	.750	.000	.694	.821	.000	.500	.536	.639	.744

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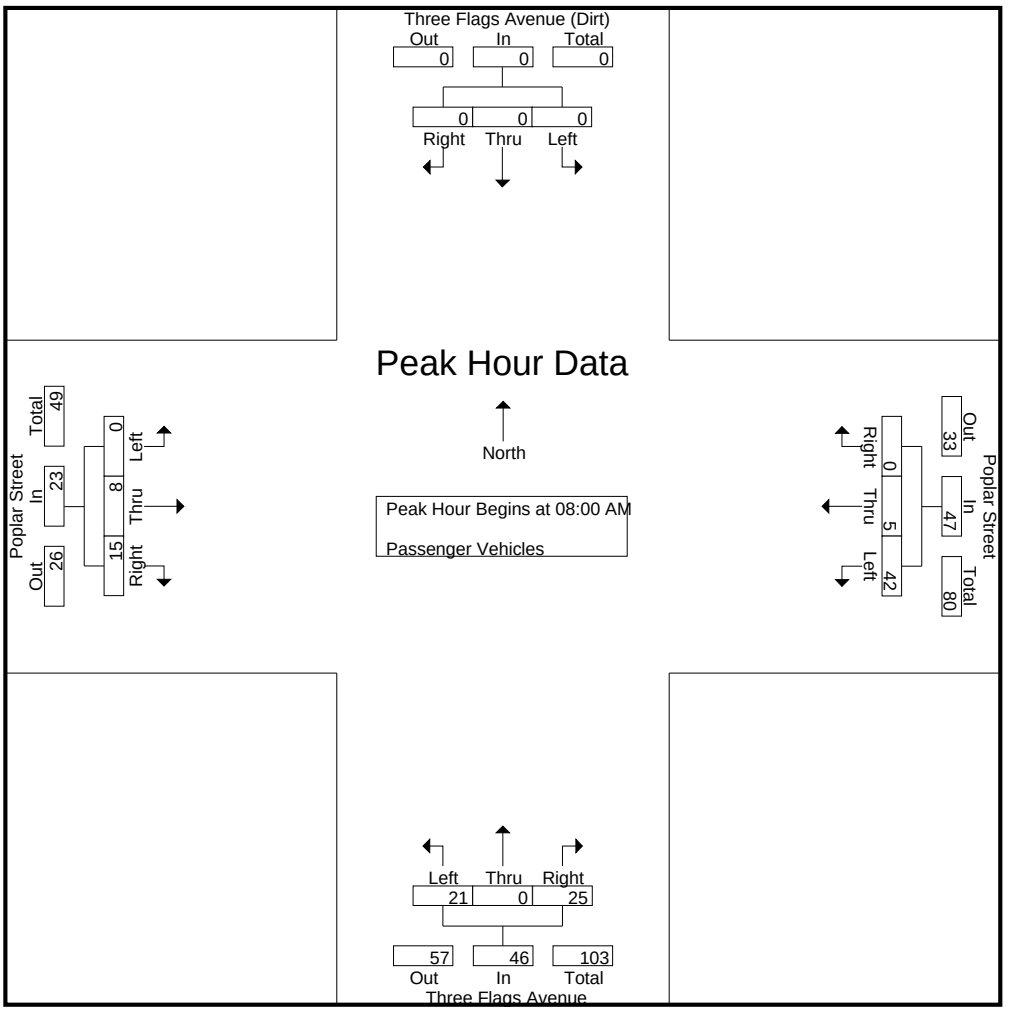

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	10	1	0	11	4	0	3	7	0	1	2	3
+15 mins.	0	0	0	0	**14**	**4**	0	**18**	5	0	7	12	0	2	**7**	**9**
+30 mins.	0	0	0	0	12	0	0	12	5	0	**9**	**14**	0	1	3	4
+45 mins.	0	0	0	0	6	0	0	6	**7**	0	6	13	0	**4**	3	7
Total Volume	0	0	0	0	42	5	0	47	21	0	25	46	0	8	15	23
% App. Total	0	0	0		89.4	10.6	0		45.7	0	54.3		0	34.8	65.2	
PHF	.000	.000	.000	.000	.750	.313	.000	.653	.750	.000	.694	.821	.000	.500	.536	.639

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File Name : 08_HES_3F_Pop AM
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Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	3
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
Total	0	0	0	0	1	0	0	1	1	0	1	2	0	2	2	4	7
08:00 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:30 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
08:45 AM	0	0	0	0	4	0	0	4	1	0	3	4	0	0	1	1	9
Total	0	0	0	0	6	0	0	6	1	0	6	7	0	0	2	2	15
Grand Total	0	0	0	0	7	0	0	7	2	0	7	9	0	2	4	6	22
Apprch %	0	0	0		100	0	0		22.2	0	77.8		0	33.3	66.7		
Total %	0	0	0	0	31.8	0	0	31.8	9.1	0	31.8	40.9	0	9.1	18.2	27.3	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	**1**	**1**	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:30 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
08:45 AM	0	0	0	0	**4**	0	0	**4**	**1**	0	**3**	**4**	0	0	1	1	**9**
Total Volume	0	0	0	0	6	0	0	6	1	0	6	7	0	0	2	2	15
% App. Total	0	0	0		100	0	0		14.3	0	85.7		0	0	100		
PHF	.000	.000	.000	.000	.375	.000	.000	.375	.250	.000	.500	.438	.000	.000	.500	.500	.417

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City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop AM
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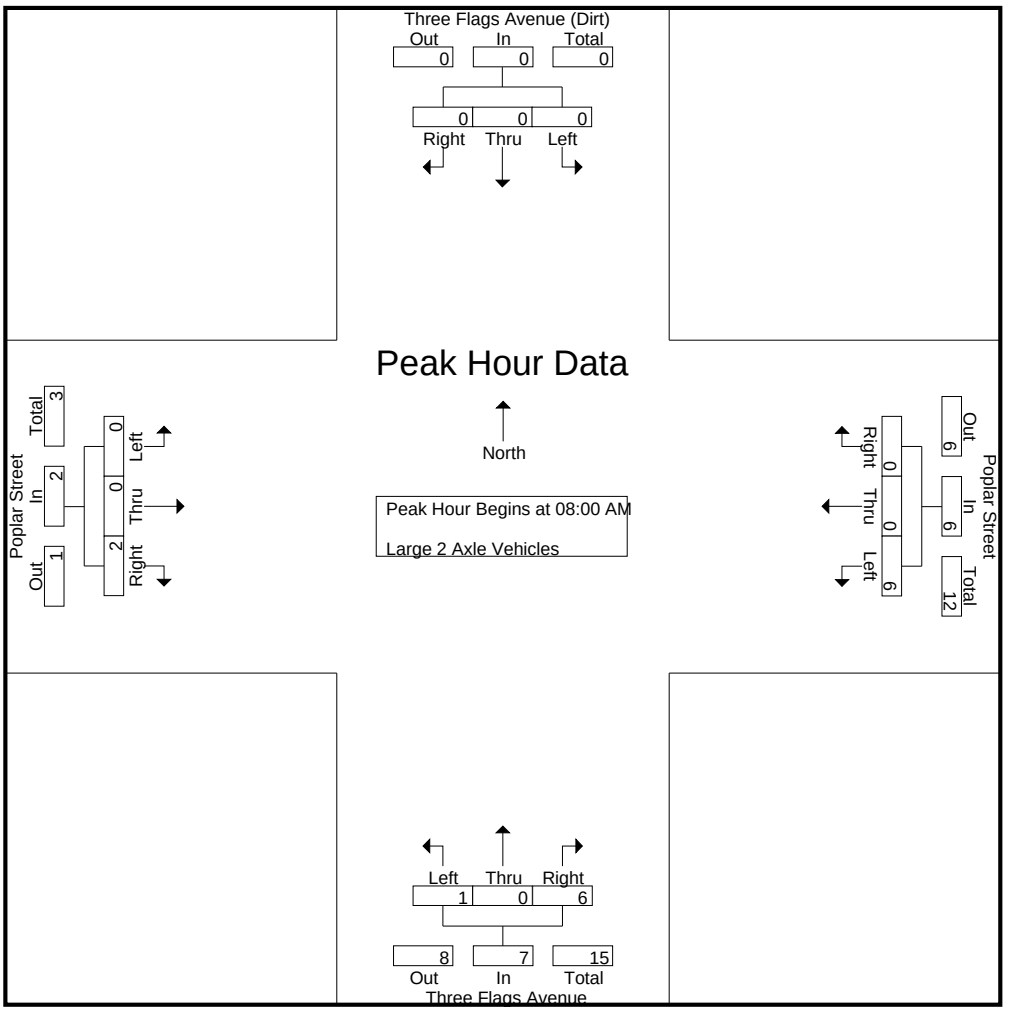

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0
+45 mins.	0	0	0	0	**4**	0	0	**4**	**1**	0	**3**	**4**	0	0	1	1
Total Volume	0	0	0	0	6	0	0	6	1	0	6	7	0	0	2	2
% App. Total	0	0	0		100	0	0		14.3	0	85.7		0	0	100	
PHF	.000	.000	.000	.000	.375	.000	.000	.375	.250	.000	.500	.438	.000	.000	.500	.500

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Groups Printed- 3 Axle Vehicles

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
Apprch %	0	0	0		100	0	0		0	0	100		0	0	0		
Total %	0	0	0	0	50	0	0	50	0	0	50	50	0	0	0	0	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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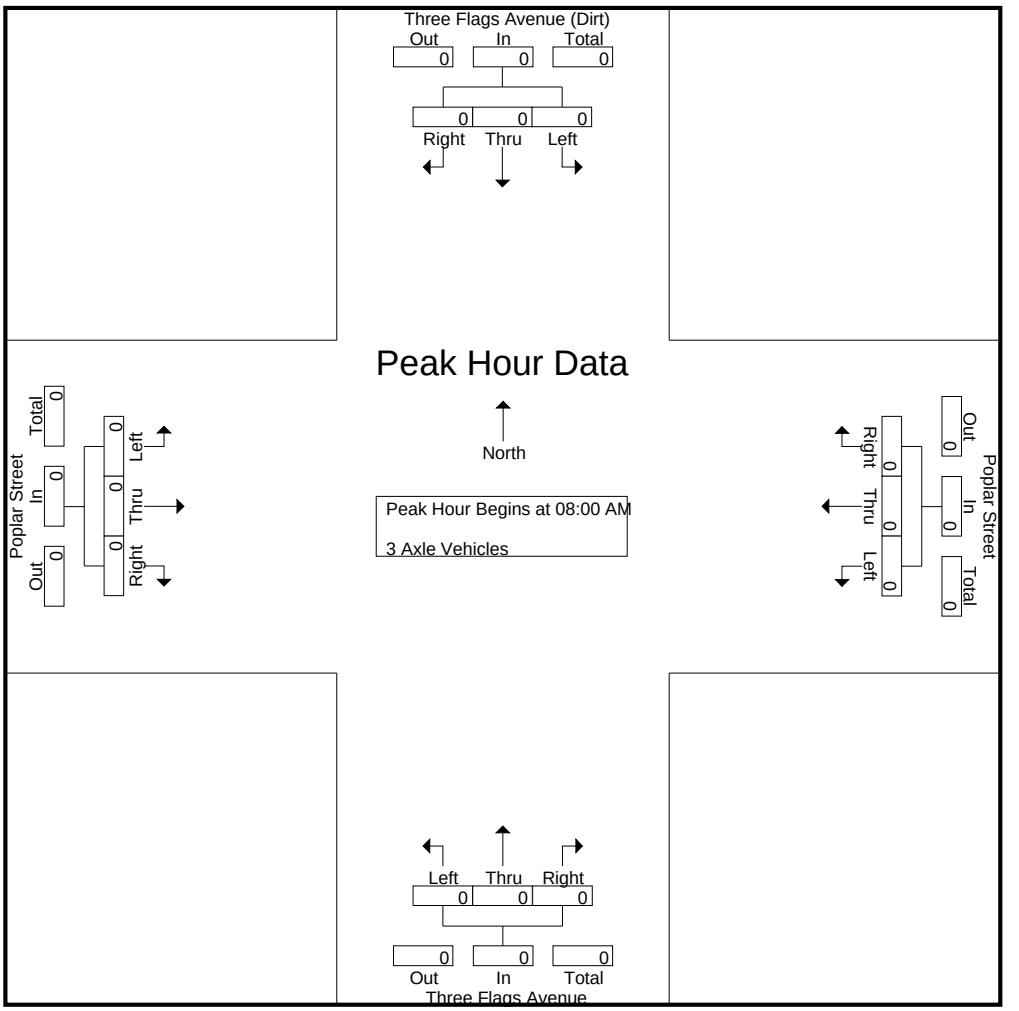

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
Total	0	0	0	0	2	0	0	2	1	0	1	2	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	2	0	0	2	0	0	1	1	0	0	1	1	4
Grand Total	0	0	0	0	4	0	0	4	1	0	2	3	0	0	1	1	8
Apprch %	0	0	0		100	0	0		33.3	0	66.7		0	0	100		
Total %	0	0	0	0	50	0	0	50	12.5	0	25	37.5	0	0	12.5	12.5	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	**1**	**1**	**3**
08:45 AM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	1
Total Volume	0	0	0	0	2	0	0	2	0	0	1	1	0	0	1	1	4
% App. Total	0	0	0		100	0	0		0	0	100		0	0	100		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.250	.333

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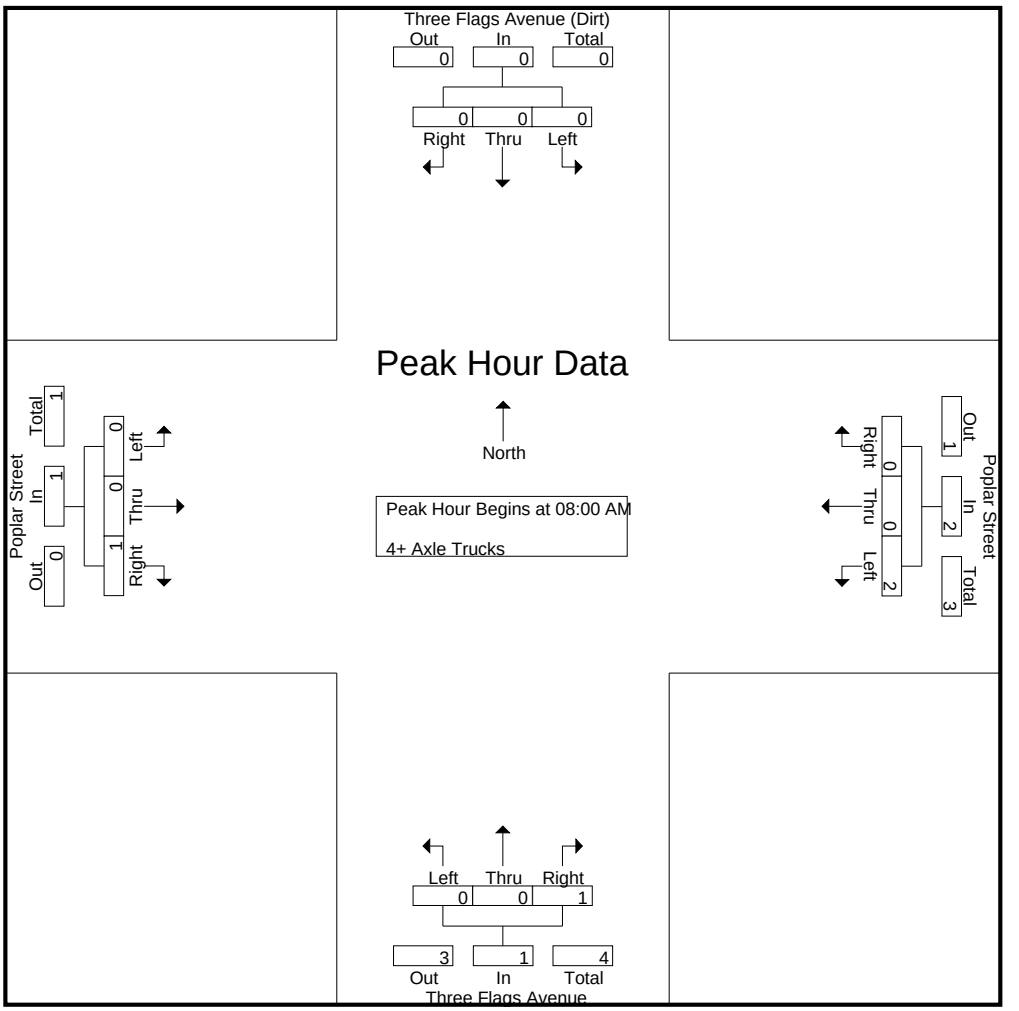

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	**1**	**1**
+45 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0
Total Volume	0	0	0	0	2	0	0	2	0	0	1	1	0	0	1	1
% App. Total	0	0	0		100	0	0		0	0	100		0	0	100	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.250

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City of Hesperia
N/S: Three Flags Avenue
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	7	8	0	15	5	0	10	15	0	18	4	22	52
04:15 PM	0	0	0	0	12	9	0	21	6	0	11	17	0	37	7	44	82
04:30 PM	0	0	0	0	8	5	0	13	6	0	20	26	0	21	2	23	62
04:45 PM	0	0	0	0	5	8	0	13	1	0	10	11	0	10	1	11	35
Total	0	0	0	0	32	30	0	62	18	0	51	69	0	86	14	100	231
05:00 PM	0	0	0	0	3	4	0	7	8	0	12	20	0	28	3	31	58
05:15 PM	0	0	0	0	3	2	0	5	2	0	10	12	0	30	2	32	49
05:30 PM	0	0	0	0	5	7	0	12	3	0	3	6	0	15	3	18	36
05:45 PM	0	0	0	0	3	5	0	8	1	0	7	8	0	23	1	24	40
Total	0	0	0	0	14	18	0	32	14	0	32	46	0	96	9	105	183
Grand Total	0	0	0	0	46	48	0	94	32	0	83	115	0	182	23	205	414
Apprch %	0	0	0		48.9	51.1	0		27.8	0	72.2		0	88.8	11.2		
Total %	0	0	0	0	11.1	11.6	0	22.7	7.7	0	20	27.8	0	44	5.6	49.5	
Passenger Vehicles	0	0	0	0	44	47	0	91	24	0	79	103	0	180	22	202	396
% Passenger Vehicles	0	0	0	0	95.7	97.9	0	96.8	75	0	95.2	89.6	0	98.9	95.7	98.5	95.7
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	2	3
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	3.1	0	0	0.9	0	0.5	4.3	1	0.7
3 Axle Vehicles	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	4
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	9.4	0	1.2	3.5	0	0	0	0	1
4+ Axle Trucks	0	0	0	0	2	1	0	3	4	0	3	7	0	1	0	1	11
% 4+ Axle Trucks	0	0	0	0	4.3	2.1	0	3.2	12.5	0	3.6	6.1	0	0.5	0	0.5	2.7

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	**12**	**9**	0	**21**	6	0	11	17	0	**37**	**7**	**44**	**82**
04:30 PM	0	0	0	0	8	5	0	13	6	0	**20**	**26**	0	21	2	23	62
04:45 PM	0	0	0	0	5	8	0	13	1	0	10	11	0	10	1	11	35
05:00 PM	0	0	0	0	3	4	0	7	**8**	0	12	20	0	28	3	31	58
Total Volume	0	0	0	0	28	26	0	54	21	0	53	74	0	96	13	109	237
% App. Total	0	0	0		51.9	48.1	0		28.4	0	71.6		0	88.1	11.9		
PHF	.000	.000	.000	.000	.583	.722	.000	.643	.656	.000	.663	.712	.000	.649	.464	.619	.723

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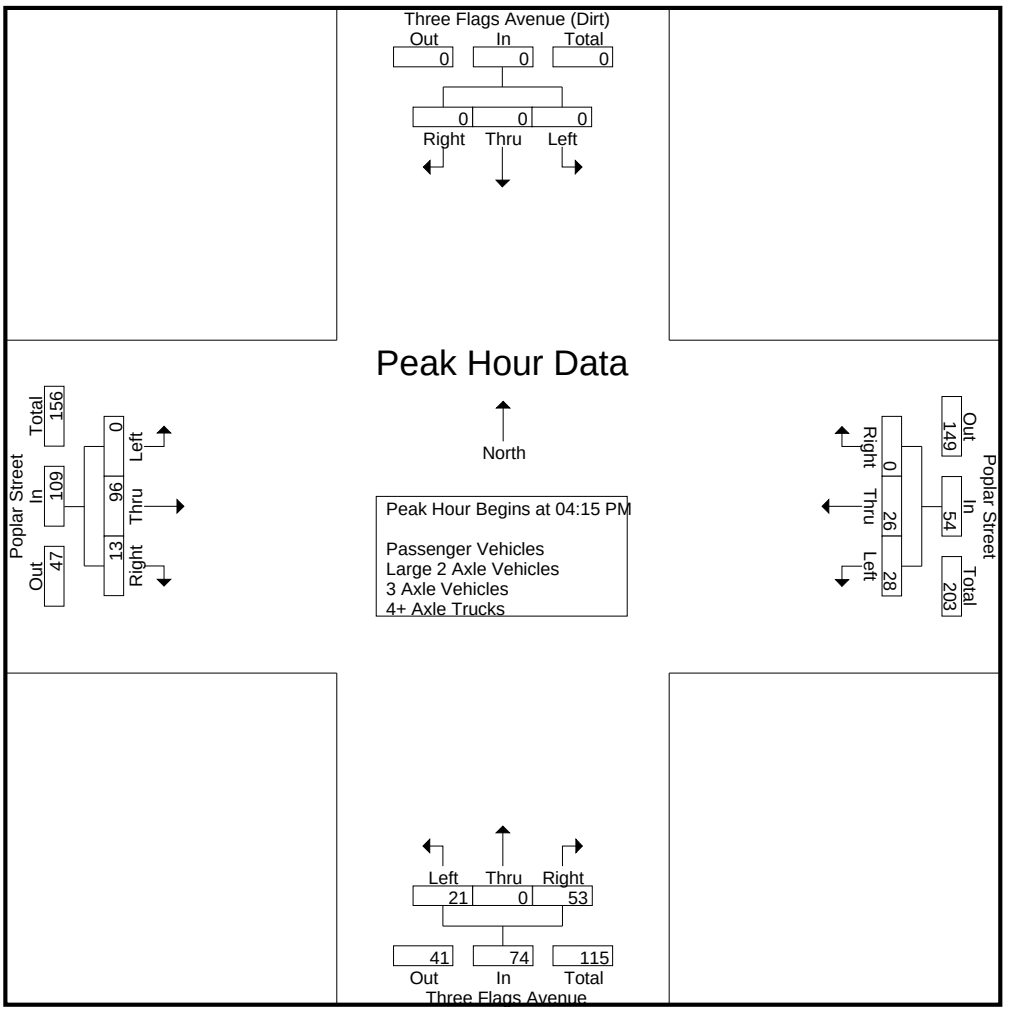

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	7	8	0	15	6	0	11	17	0	**37**	**7**	**44**
+15 mins.	0	0	0	0	**12**	**9**	0	**21**	6	0	**20**	**26**	0	21	2	23
+30 mins.	0	0	0	0	8	5	0	13	1	0	10	11	0	10	1	11
+45 mins.	0	0	0	0	5	8	0	13	**8**	0	12	20	0	28	3	31
Total Volume	0	0	0	0	32	30	0	62	21	0	53	74	0	96	13	109
% App. Total	0	0	0		51.6	48.4	0		28.4	0	71.6		0	88.1	11.9	
PHF	.000	.000	.000	.000	.667	.833	.000	.738	.656	.000	.663	.712	.000	.649	.464	.619

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Groups Printed- Passenger Vehicles

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	6	8	0	14	4	0	10	14	0	17	4	21	49
04:15 PM	0	0	0	0	12	8	0	20	5	0	11	16	0	37	7	44	80
04:30 PM	0	0	0	0	8	5	0	13	4	0	20	24	0	21	2	23	60
04:45 PM	0	0	0	0	4	8	0	12	0	0	10	10	0	10	1	11	33
Total	0	0	0	0	30	29	0	59	13	0	51	64	0	85	14	99	222
05:00 PM	0	0	0	0	3	4	0	7	6	0	9	15	0	28	2	30	52
05:15 PM	0	0	0	0	3	2	0	5	1	0	9	10	0	29	2	31	46
05:30 PM	0	0	0	0	5	7	0	12	3	0	3	6	0	15	3	18	36
05:45 PM	0	0	0	0	3	5	0	8	1	0	7	8	0	23	1	24	40
Total	0	0	0	0	14	18	0	32	11	0	28	39	0	95	8	103	174
Grand Total	0	0	0	0	44	47	0	91	24	0	79	103	0	180	22	202	396
Apprch %	0	0	0		48.4	51.6	0		23.3	0	76.7		0	89.1	10.9		
Total %	0	0	0	0	11.1	11.9	0	23	6.1	0	19.9	26	0	45.5	5.6	51	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	**12**	**8**	0	**20**	5	0	11	16	0	**37**	**7**	**44**	**80**
04:30 PM	0	0	0	0	8	5	0	13	4	0	**20**	**24**	0	21	2	23	60
04:45 PM	0	0	0	0	4	8	0	12	0	0	10	10	0	10	1	11	33
05:00 PM	0	0	0	0	3	4	0	7	**6**	0	9	15	0	28	2	30	52
Total Volume	0	0	0	0	27	25	0	52	15	0	50	65	0	96	12	108	225
% App. Total	0	0	0		51.9	48.1	0		23.1	0	76.9		0	88.9	11.1		
PHF	.000	.000	.000	.000	.563	.781	.000	.650	.625	.000	.625	.677	.000	.649	.429	.614	.703

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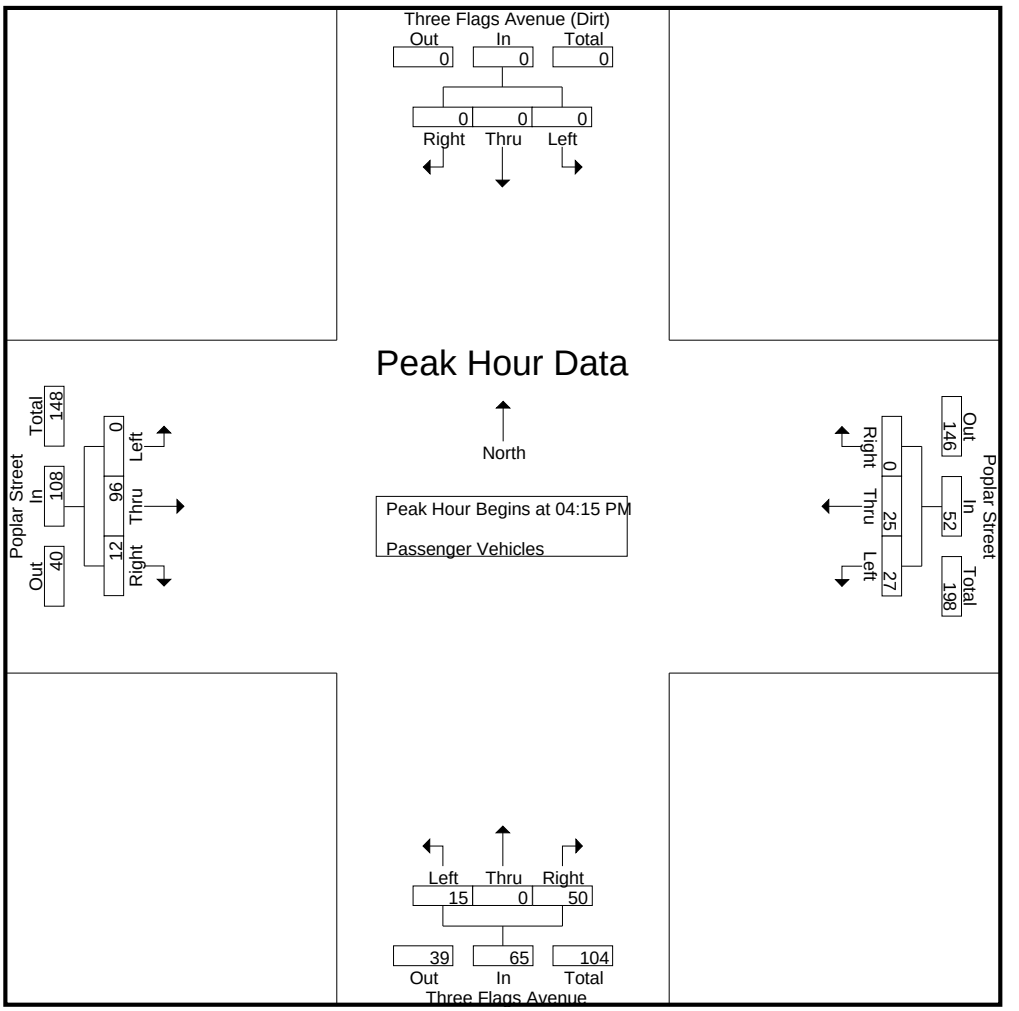

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	**12**	**8**	0	**20**	5	0	11	16	0	**37**	**7**	**44**
+15 mins.	0	0	0	0	8	5	0	13	4	0	**20**	**24**	0	21	2	23
+30 mins.	0	0	0	0	4	8	0	12	0	0	10	10	0	10	1	11
+45 mins.	0	0	0	0	3	4	0	7	**6**	0	9	15	0	28	2	30
Total Volume	0	0	0	0	27	25	0	52	15	0	50	65	0	96	12	108
% App. Total	0	0	0		51.9	48.1	0		23.1	0	76.9		0	88.9	11.1	
PHF	.000	.000	.000	.000	.563	.781	.000	.650	.625	.000	.625	.677	.000	.649	.429	.614

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	2	3
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	2	3
Apprch %	0	0	0		0	0	0		100	0	0		0	50	50		
Total %	0	0	0	0	0	0	0	0	33.3	0	0	33.3	0	33.3	33.3	66.7	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	**1**	**1**	**2**
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
% App. Total	0	0	0		0	0	0		100	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.250	.250	.250

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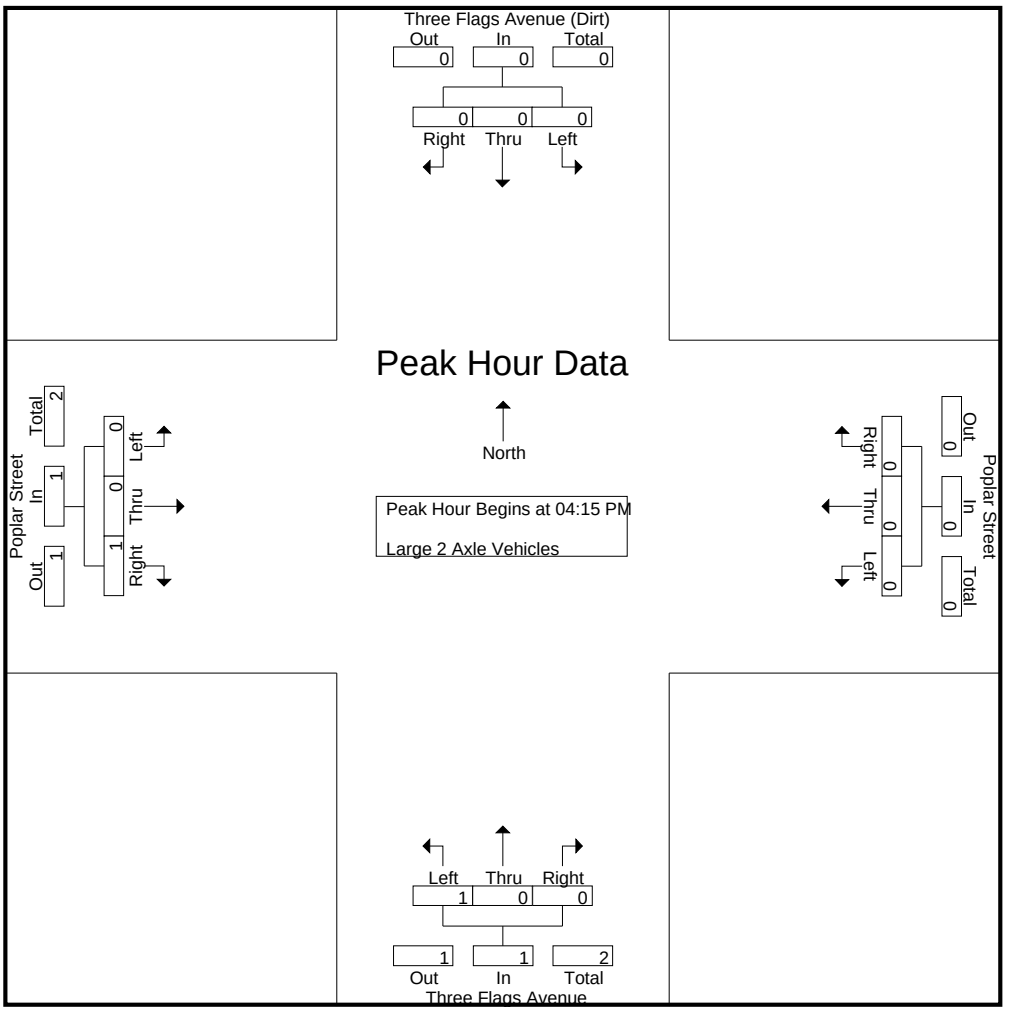
City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	**1**	**1**
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		100	0	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.250	.250

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City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	4
Apprch %	0	0	0		0	0	0		75	0	25		0	0	0		
Total %	0	0	0	0	0	0	0	0	75	0	25	100	0	0	0	0	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**1**
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	2	0	1	3	0	0	0	0	3
% App. Total	0	0	0		0	0	0		66.7	0	33.3		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.250	.750	.000	.000	.000	.000	.750

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City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop PM
Site Code : 05125030
Start Date : 2/11/2025
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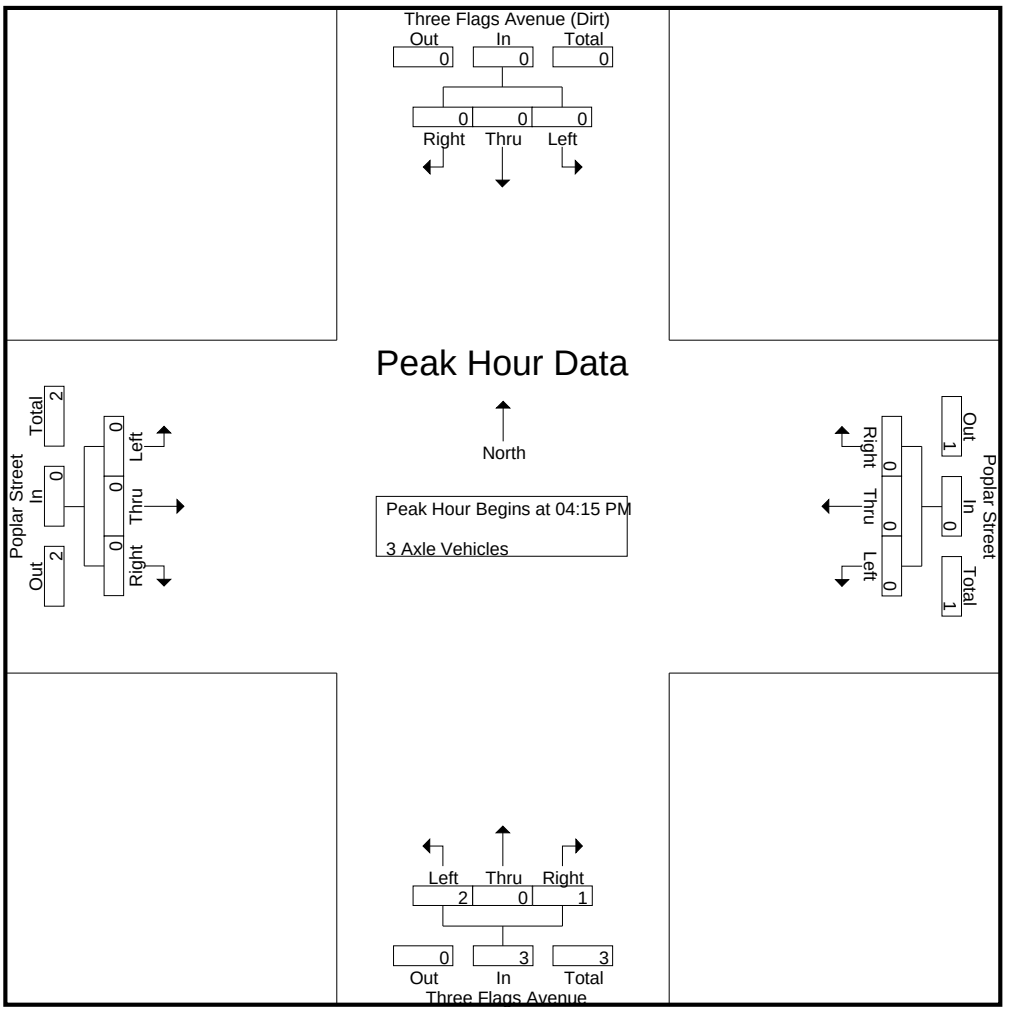

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	0	1	3	0	0	0	0
% App. Total	0	0	0		0	0	0		66.7	0	33.3		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.250	.750	.000	.000	.000	.000

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City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	0	0	1	1	0	0	1	0	1	0	1	3
04:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	2	1	0	3	3	0	0	3	0	1	0	1	7
05:00 PM	0	0	0	0	0	0	0	0	1	0	2	3	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	3	4	0	0	0	0	4
Grand Total	0	0	0	0	2	1	0	3	4	0	3	7	0	1	0	1	11
Apprch %	0	0	0		66.7	33.3	0		57.1	0	42.9		0	100	0		
Total %	0	0	0	0	18.2	9.1	0	27.3	36.4	0	27.3	63.6	0	9.1	0	9.1	

	Three Flags Avenue (Dirt) Southbound				Poplar Street Westbound				Three Flags Avenue Northbound				Poplar Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	**1**	0	**1**	**1**	0	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	1	0	**2**	**3**	0	0	0	0	**3**
Total Volume	0	0	0	0	1	1	0	2	3	0	2	5	0	0	0	0	7
% App. Total	0	0	0		50	50	0		60	0	40		0	0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.500	.750	.000	.250	.417	.000	.000	.000	.000	.583

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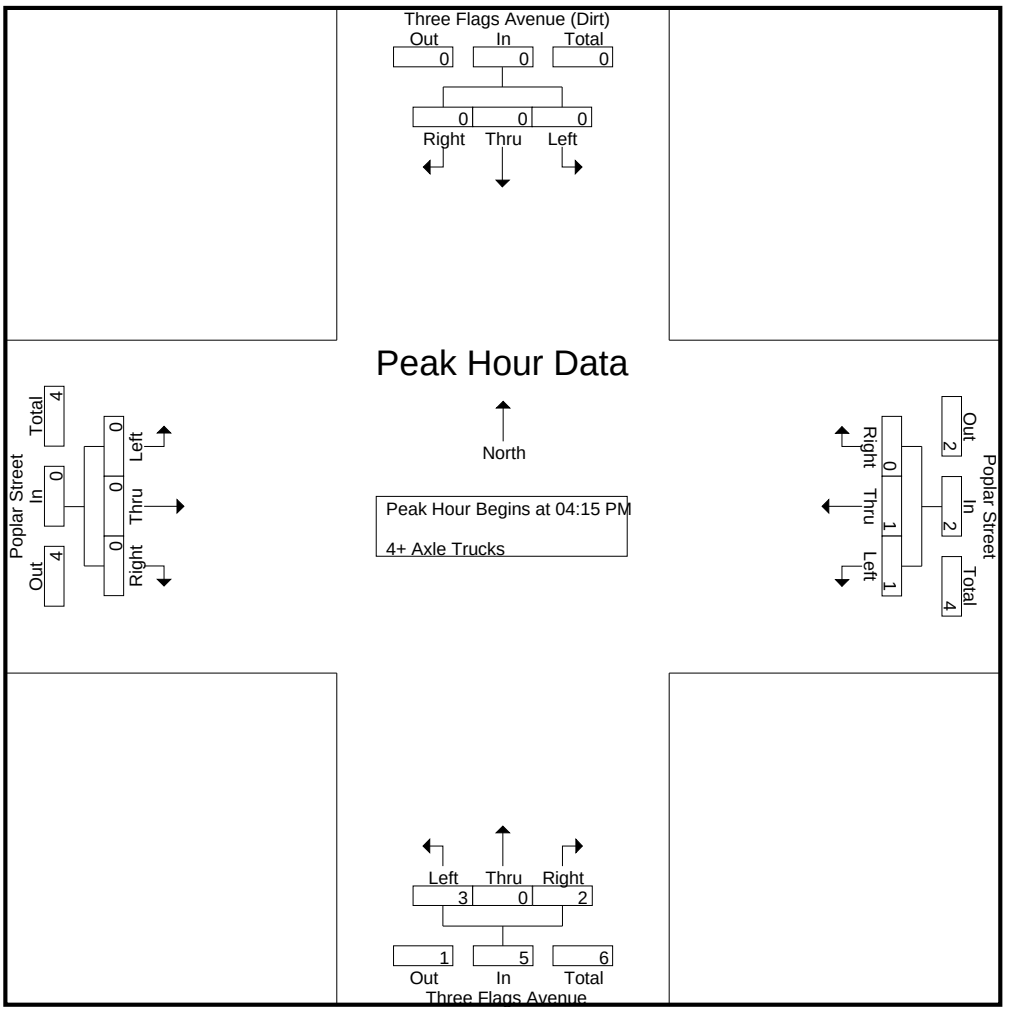
City of Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street
Weather: Clear

File Name : 08_HES_3F_Pop PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	**1**	0	**1**	**1**	0	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+30 mins.	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	**2**	**3**	0	0	0	0
Total Volume	0	0	0	0	1	1	0	2	3	0	2	5	0	0	0	0
% App. Total	0	0	0		50	50	0		60	0	40		0	0	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.500	.750	.000	.250	.417	.000	.000	.000	.000

Location: Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg Three Flags Avenue	East Leg Poplar Street	South Leg Three Flags Avenue	West Leg Poplar Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Three Flags Avenue	East Leg Poplar Street	South Leg Three Flags Avenue	West Leg Poplar Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: Three Flags Avenue
E/W: Poplar Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound Three Flags Avenue			Westbound Poplar Street			Northbound Three Flags Avenue			Eastbound Poplar Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Three Flags Avenue			Westbound Poplar Street			Northbound Three Flags Avenue			Eastbound Poplar Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	104	5	60	10	169	3	25	0	0	28	0	0	0	0	0	0	32	4	1	36	11	233	244
07:15 AM	71	0	55	16	126	3	26	0	0	29	0	0	0	0	0	0	26	6	2	32	18	187	205
07:30 AM	27	2	40	9	69	3	18	0	0	21	0	0	0	0	0	0	32	6	3	38	12	128	140
07:45 AM	22	0	20	3	42	0	16	0	0	16	0	0	0	0	0	0	17	7	1	24	4	82	86
Total	224	7	175	38	406	9	85	0	0	94	0	0	0	0	0	0	107	23	7	130	45	630	675
08:00 AM	20	1	22	5	43	3	32	0	0	35	0	0	0	0	0	0	17	2	0	19	5	97	102
08:15 AM	24	1	21	5	46	2	17	0	0	19	0	0	0	0	0	0	15	3	1	18	6	83	89
08:30 AM	21	2	8	1	31	2	22	0	0	24	0	0	0	0	0	0	21	5	1	26	2	81	83
08:45 AM	28	2	6	0	36	2	8	0	0	10	0	0	0	0	0	0	11	2	0	13	0	59	59
Total	93	6	57	11	156	9	79	0	0	88	0	0	0	0	0	0	64	12	2	76	13	320	333
Grand Total	317	13	232	49	562	18	164	0	0	182	0	0	0	0	0	0	171	35	9	206	58	950	1008
Apprch %	56.4	2.3	41.3			9.9	90.1	0			0	0	0			0	83	17					
Total %	33.4	1.4	24.4		59.2	1.9	17.3	0		19.2	0	0	0		0	0	18	3.7		21.7	5.8	94.2	
Passenger Vehicles	296	8	215		564	17	150	0		167	0	0	0		0	0	164	25		195	0	0	926
% Passenger Vehicles	93.4	61.5	92.7	91.8	92.3	94.4	91.5	0	0	91.8	0	0	0	0	0	0	95.9	71.4	66.7	90.7	0	0	91.9
Large 2 Axle Vehicles	8	0	2		10	0	6	0		6	0	0	0		0	0	2	1		3	0	0	19
% Large 2 Axle Vehicles	2.5	0	0.9	0	1.6	0	3.7	0	0	3.3	0	0	0	0	0	0	1.2	2.9	0	1.4	0	0	1.9
3 Axle Vehicles	5	0	0		5	0	1	0		1	0	0	0		0	0	0	3		4	0	0	10
% 3 Axle Vehicles	1.6	0	0	0	0.8	0	0.6	0	0	0.5	0	0	0	0	0	0	0	8.6	11.1	1.9	0	0	1
4+ Axle Trucks	8	5	15		32	1	7	0		8	0	0	0		0	0	5	6		13	0	0	53
% 4+ Axle Trucks	2.5	38.5	6.5	8.2	5.2	5.6	4.3	0	0	4.4	0	0	0	0	0	0	2.9	17.1	22.2	6	0	0	5.3

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**104**	**5**	**60**	**169**	**3**	25	0	28	0	0	0	0	0	**32**	4	36	**233**
07:15 AM	71	0	55	126	3	**26**	0	**29**	0	0	0	0	0	26	6	32	187
07:30 AM	27	2	40	69	3	18	0	21	0	0	0	0	0	32	6	**38**	128
07:45 AM	22	0	20	42	0	16	0	16	0	0	0	0	0	17	**7**	24	82
Total Volume	224	7	175	406	9	85	0	94	0	0	0	0	0	107	23	130	630
% App. Total	55.2	1.7	43.1		9.6	90.4	0		0	0	0		0	82.3	17.7		
PHF	.538	.350	.729	.601	.750	.817	.000	.810	.000	.000	.000	.000	.000	.836	.821	.855	.676

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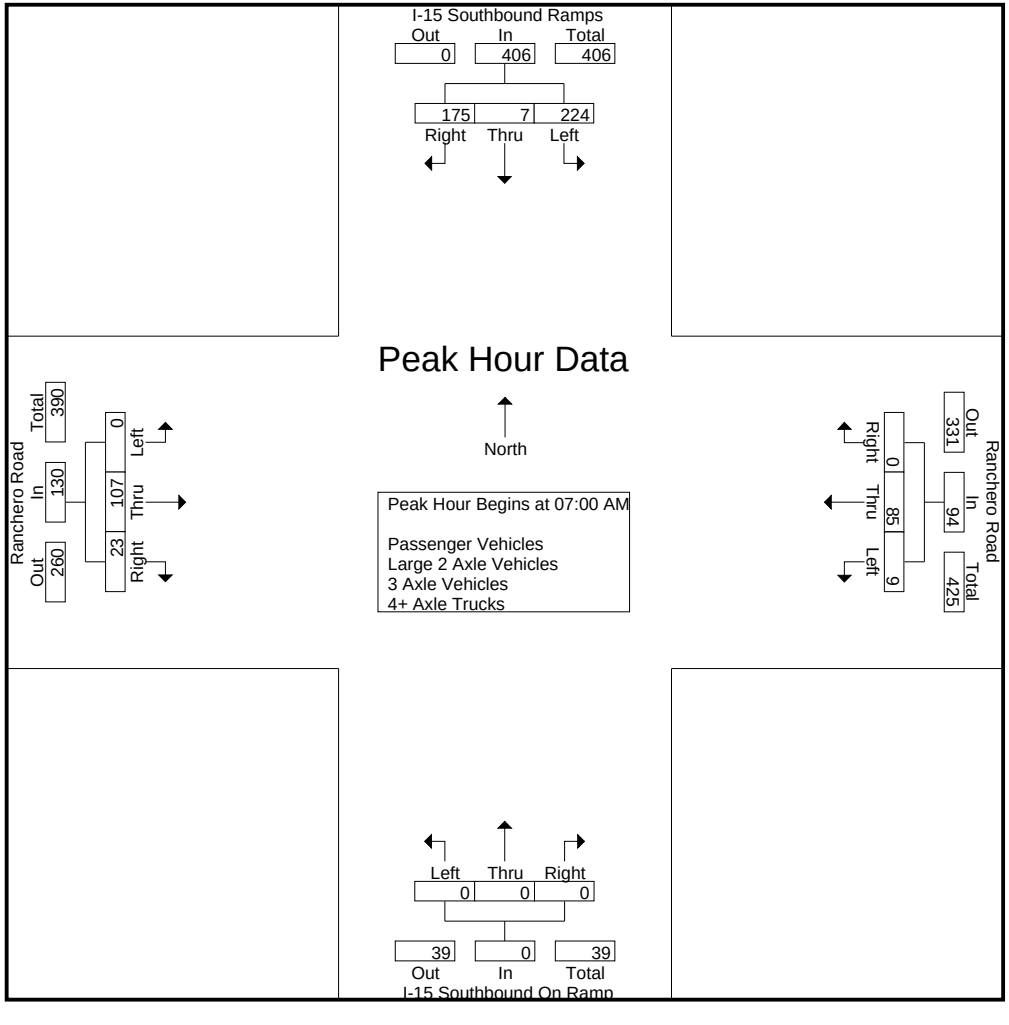
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:15 AM				07:00 AM				07:00 AM				
+0 mins.	**104**	**5**	**60**	**169**	**3**	26	0	29	0	0	0	0	0	**32**	4	36	
+15 mins.	71	0	55	126	3	18	0	21	0	0	0	0	0	26	6	32	
+30 mins.	27	2	40	69	0	16	0	16	0	0	0	0	0	32	6	**38**	
+45 mins.	22	0	20	42	3	**32**	0	**35**	0	0	0	0	0	17	**7**	24	
Total Volume	224	7	175	406	9	92	0	101	0	0	0	0	0	107	23	130	
% App. Total	55.2	1.7	43.1		8.9	91.1	0		0	0	0		0	82.3	17.7		
PHF	.538	.350	.729	.601	.750	.719	.000	.721	.000	.000	.000	.000	.000	.836	.821	.855	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Passenger Vehicles

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	97	3	56	9	156	3	24	0	0	27	0	0	0	0	0	0	31	4	1	35	10	218	228
07:15 AM	69	0	52	15	121	3	22	0	0	25	0	0	0	0	0	0	24	6	2	30	17	176	193
07:30 AM	25	1	37	9	63	3	17	0	0	20	0	0	0	0	0	0	30	2	1	32	10	115	125
07:45 AM	19	0	20	3	39	0	15	0	0	15	0	0	0	0	0	0	17	4	0	21	3	75	78
Total	210	4	165	36	379	9	78	0	0	87	0	0	0	0	0	0	102	16	4	118	40	584	624
08:00 AM	20	0	20	4	40	3	30	0	0	33	0	0	0	0	0	0	16	2	0	18	4	91	95
08:15 AM	21	0	21	5	42	2	16	0	0	18	0	0	0	0	0	0	14	3	1	17	6	77	83
08:30 AM	18	2	4	0	24	2	20	0	0	22	0	0	0	0	0	0	21	2	1	23	1	69	70
08:45 AM	27	2	5	0	34	1	6	0	0	7	0	0	0	0	0	0	11	2	0	13	0	54	54
Total	86	4	50	9	140	8	72	0	0	80	0	0	0	0	0	0	62	9	2	71	11	291	302
Grand Total	296	8	215	45	519	17	150	0	0	167	0	0	0	0	0	0	164	25	6	189	51	875	926
Apprch %	57	1.5	41.4			10.2	89.8	0			0	0	0			0	86.8	13.2					
Total %	33.8	0.9	24.6		59.3	1.9	17.1	0		19.1	0	0	0		0	0	18.7	2.9		21.6	5.5	94.5	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**97**	**3**	**56**	**156**	**3**	**24**	0	**27**	0	0	0	0	0	**31**	4	**35**	**218**
07:15 AM	69	0	52	121	3	22	0	25	0	0	0	0	0	24	**6**	30	176
07:30 AM	25	1	37	63	3	17	0	20	0	0	0	0	0	30	2	32	115
07:45 AM	19	0	20	39	0	15	0	15	0	0	0	0	0	17	4	21	75
Total Volume	210	4	165	379	9	78	0	87	0	0	0	0	0	102	16	118	584
% App. Total	55.4	1.1	43.5		10.3	89.7	0		0	0	0		0	86.4	13.6		
PHF	.541	.333	.737	.607	.750	.813	.000	.806	.000	.000	.000	.000	.000	.823	.667	.843	.670

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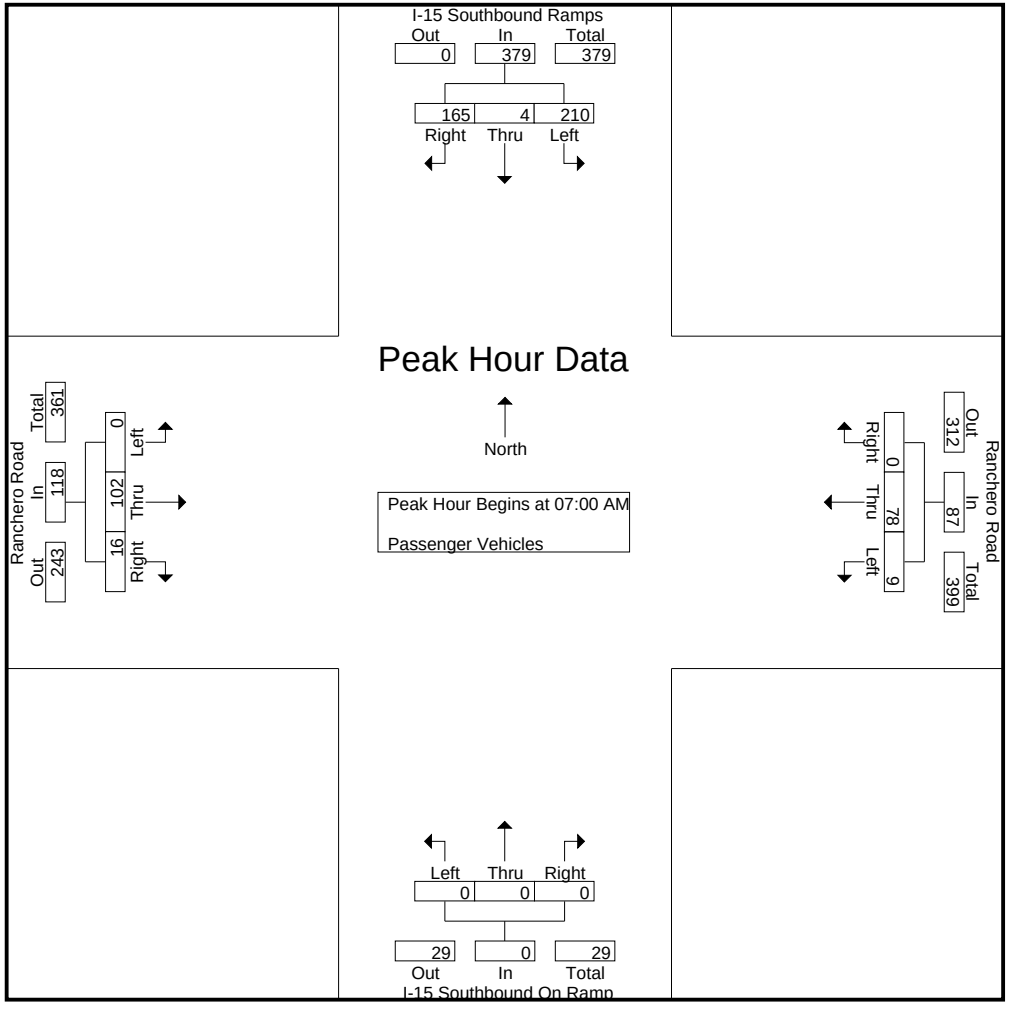
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**97**	**3**	**56**	**156**	**3**	**24**	0	**27**	0	0	0	0	0	**31**	4	**35**	
+15 mins.	69	0	52	121	3	22	0	25	0	0	0	0	0	24	**6**	30	
+30 mins.	25	1	37	63	3	17	0	20	0	0	0	0	0	30	2	32	
+45 mins.	19	0	20	39	0	15	0	15	0	0	0	0	0	17	4	21	
Total Volume	210	4	165	379	9	78	0	87	0	0	0	0	0	102	16	118	
% App. Total	55.4	1.1	43.5		10.3	89.7	0		0	0	0		0	86.4	13.6		
PHF	.541	.333	.737	.607	.750	.813	.000	.806	.000	.000	.000	.000	.000	.823	.667	.843	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:15 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	5	5
07:30 AM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	0	1	0	5	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	10	10
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	4
08:30 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	3	3
08:45 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	4	0	1	0	5	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	9	9
Grand Total	8	0	2	0	10	0	6	0	0	6	0	0	0	0	0	0	2	1	0	3	0	19	19
Apprch %	80	0	20			0	100	0			0	0	0			0	66.7	33.3					
Total %	42.1	0	10.5		52.6	0	31.6	0		31.6	0	0	0		0	0	10.5	5.3		15.8	0	100	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	1	0	0	1	0	**2**	0	**2**	0	0	0	0	0	**2**	0	**2**	**5**
07:30 AM	1	0	**1**	2	0	1	0	1	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	4	0	1	5	0	3	0	3	0	0	0	0	0	2	0	2	10
% App. Total	80	0	20		0	100	0		0	0	0		0	100	0		
PHF	.500	.000	.250	.625	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	.500

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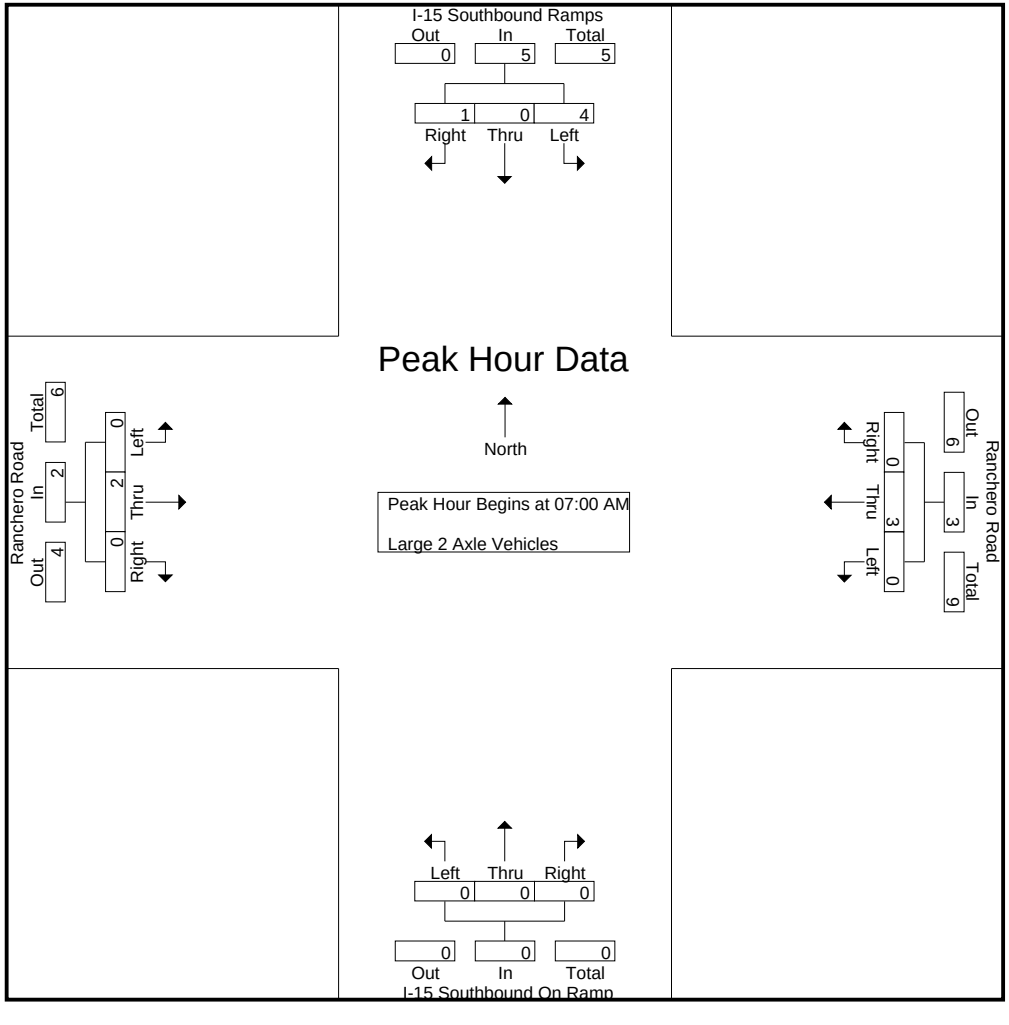
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**2**	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	1	0	0	1	0	**2**	0	**2**	0	0	0	0	0	**2**	0	**2**	
+30 mins.	1	0	**1**	2	0	1	0	1	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	4	0	1	5	0	3	0	3	0	0	0	0	0	2	0	2	
% App. Total	80	0	20		0	100	0		0	0	0		0	100	0		
PHF	.500	.000	.250	.625	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 3 Axle Vehicles

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	2	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	2	1	2	1	6	7
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2
08:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	3
Grand Total	5	0	0	0	5	0	1	0	0	1	0	0	0	0	0	0	0	3	1	3	1	9	10
Apprch %	100	0	0			0	100	0			0	0	0			0	0	100					
Total %	55.6	0	0		55.6	0	11.1	0		11.1	0	0	0		0	0	0	33.3		33.3	10	90	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**2**	0	0	**2**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**3**
07:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	3	0	0	3	0	1	0	1	0	0	0	0	0	0	2	2	6
% App. Total	100	0	0		0	100	0		0	0	0		0	0	100		
PHF	.375	.000	.000	.375	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.500

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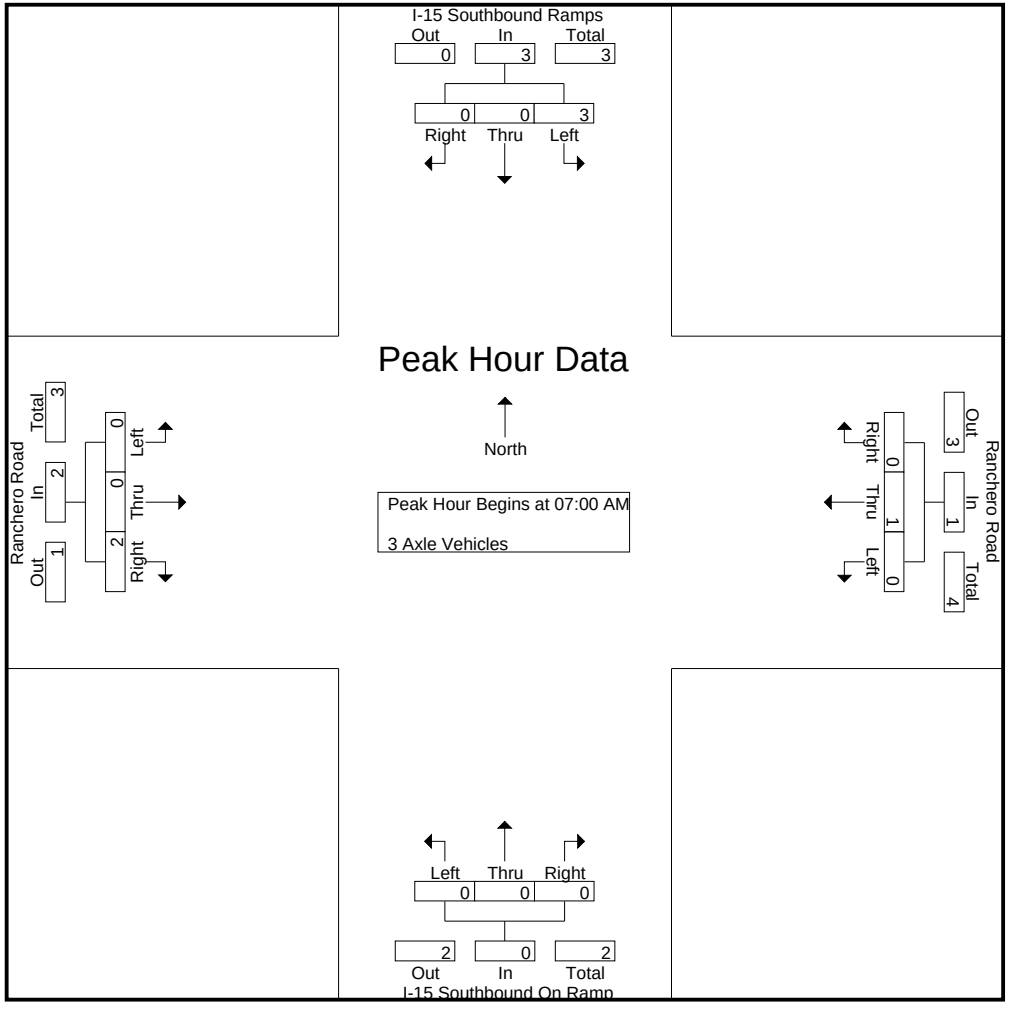
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**2**	0	0	**2**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	
+15 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	3	0	0	3	0	1	0	1	0	0	0	0	0	0	2	2	
% App. Total	100	0	0		0	100	0		0	0	0		0	0	100		
PHF	.375	.000	.000	.375	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 4+ Axle Trucks

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	2	4	1	9	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	10	11
07:15 AM	0	0	3	1	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	5	6
07:30 AM	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	0	2	2	1	4	1	8	9
07:45 AM	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	3	1	3	1	7	8
Total	7	3	9	2	19	0	3	0	0	3	0	0	0	0	0	0	3	5	2	8	4	30	34
08:00 AM	0	1	2	1	3	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	6	7
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	2
08:30 AM	1	0	4	1	5	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	7	8
08:45 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	1	2	6	2	9	1	4	0	0	5	0	0	0	0	0	0	2	1	0	3	2	17	19
Grand Total	8	5	15	4	28	1	7	0	0	8	0	0	0	0	0	0	5	6	2	11	6	47	53
Apprch %	28.6	17.9	53.6			12.5	87.5	0			0	0	0			0	45.5	54.5					
Total %	17	10.6	31.9		59.6	2.1	14.9	0		17	0	0	0		0	0	10.6	12.8		23.4	11.3	88.7	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**3**	**2**	**4**	**9**	0	0	0	0	0	0	0	0	0	1	0	1	**10**
07:15 AM	0	0	3	3	0	**2**	0	**2**	0	0	0	0	0	0	0	0	5
07:30 AM	1	1	2	4	0	0	0	0	0	0	0	0	0	**2**	2	**4**	8
07:45 AM	3	0	0	3	0	1	0	1	0	0	0	0	0	0	**3**	3	7
Total Volume	7	3	9	19	0	3	0	3	0	0	0	0	0	3	5	8	30
% App. Total	36.8	15.8	47.4		0	100	0		0	0	0		0	37.5	62.5		
PHF	.583	.375	.563	.528	.000	.375	.000	.375	.000	.000	.000	.000	.000	.375	.417	.500	.750

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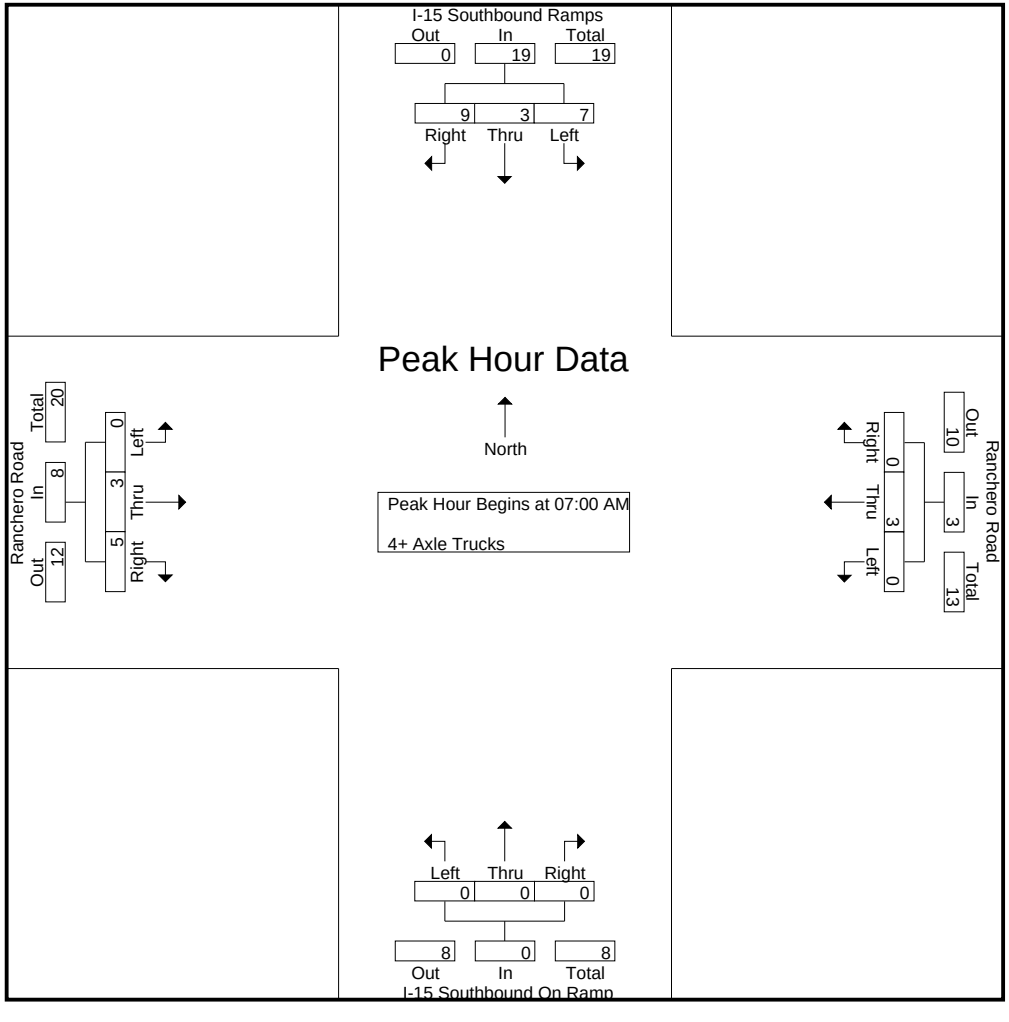
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran AM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:00 AM				07:00 AM				07:00 AM				
+0 mins.	**3**	**2**	**4**	**9**	0	0	0	0	0	0	0	0	0	1	0	1	
+15 mins.	0	0	3	3	0	**2**	0	**2**	0	0	0	0	0	0	0	0	
+30 mins.	1	1	2	4	0	0	0	0	0	0	0	0	0	**2**	2	**4**	
+45 mins.	3	0	0	3	0	1	0	1	0	0	0	0	0	0	**3**	3	
Total Volume	7	3	9	19	0	3	0	3	0	0	0	0	0	3	5	8	
% App. Total	36.8	15.8	47.4		0	100	0		0	0	0		0	37.5	62.5		
PHF	.583	.375	.563	.528	.000	.375	.000	.375	.000	.000	.000	.000	.000	.375	.417	.500	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	43	1	11	2	55	0	36	0	0	36	0	0	0	0	0	0	20	5	2	25	4	116	120
04:15 PM	40	0	15	2	55	0	25	0	0	25	0	0	0	0	0	0	22	2	1	24	3	104	107
04:30 PM	35	0	19	5	54	1	24	0	0	25	0	0	0	0	0	0	27	4	1	31	6	110	116
04:45 PM	38	0	31	10	69	3	30	0	0	33	0	0	0	0	0	0	20	6	2	26	12	128	140
Total	156	1	76	19	233	4	115	0	0	119	0	0	0	0	0	0	89	17	6	106	25	458	483
05:00 PM	44	1	9	0	54	0	17	0	0	17	0	0	0	0	0	0	25	7	2	32	2	103	105
05:15 PM	39	0	19	4	58	4	23	0	0	27	0	0	0	0	0	0	27	4	1	31	5	116	121
05:30 PM	48	1	10	2	59	0	18	0	0	18	0	0	0	0	0	0	26	0	0	26	2	103	105
05:45 PM	60	2	11	3	73	4	27	0	0	31	0	0	0	0	0	0	19	4	1	23	4	127	131
Total	191	4	49	9	244	8	85	0	0	93	0	0	0	0	0	0	97	15	4	112	13	449	462
Grand Total	347	5	125	28	477	12	200	0	0	212	0	0	0	0	0	0	186	32	10	218	38	907	945
Apprch %	72.7	1	26.2			5.7	94.3	0			0	0	0			0	85.3	14.7					
Total %	38.3	0.6	13.8		52.6	1.3	22.1	0		23.4	0	0	0		0	0	20.5	3.5		24	4	96	
Passenger Vehicles	331	1	120		479	11	193	0		204	0	0	0		0	0	185	21		212	0	0	895
% Passenger Vehicles	95.4	20	96	96.4	94.9	91.7	96.5	0	0	96.2	0	0	0	0	0	0	99.5	65.6	60	93	0	0	94.7
Large 2 Axle Vehicles	7	0	4		12	0	0	0		0	0	0	0		0	0	0	0		0	0	0	12
% Large 2 Axle Vehicles	2	0	3.2	3.6	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3
3 Axle Vehicles	0	0	0		0	0	3	0		3	0	0	0		0	0	0	2		2	0	0	5
% 3 Axle Vehicles	0	0	0	0	0	0	1.5	0	0	1.4	0	0	0	0	0	0	0	6.2	0	0.9	0	0	0.5
4+ Axle Trucks	9	4	1		14	1	4	0		5	0	0	0		0	0	1	9		14	0	0	33
% 4+ Axle Trucks	2.6	80	0.8	0	2.8	8.3	2	0	0	2.4	0	0	0	0	0	0	0.5	28.1	40	6.1	0	0	3.5

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**43**	**1**	11	55	0	**36**	0	**36**	0	0	0	0	0	20	5	25	116
04:15 PM	40	0	15	55	0	25	0	25	0	0	0	0	0	22	2	24	104
04:30 PM	35	0	19	54	1	24	0	25	0	0	0	0	0	**27**	4	**31**	110
04:45 PM	38	0	**31**	**69**	**3**	30	0	33	0	0	0	0	0	20	**6**	26	**128**
Total Volume	156	1	76	233	4	115	0	119	0	0	0	0	0	89	17	106	458
% App. Total	67	0.4	32.6		3.4	96.6	0		0	0	0		0	84	16		
PHF	.907	.250	.613	.844	.333	.799	.000	.826	.000	.000	.000	.000	.000	.824	.708	.855	.895

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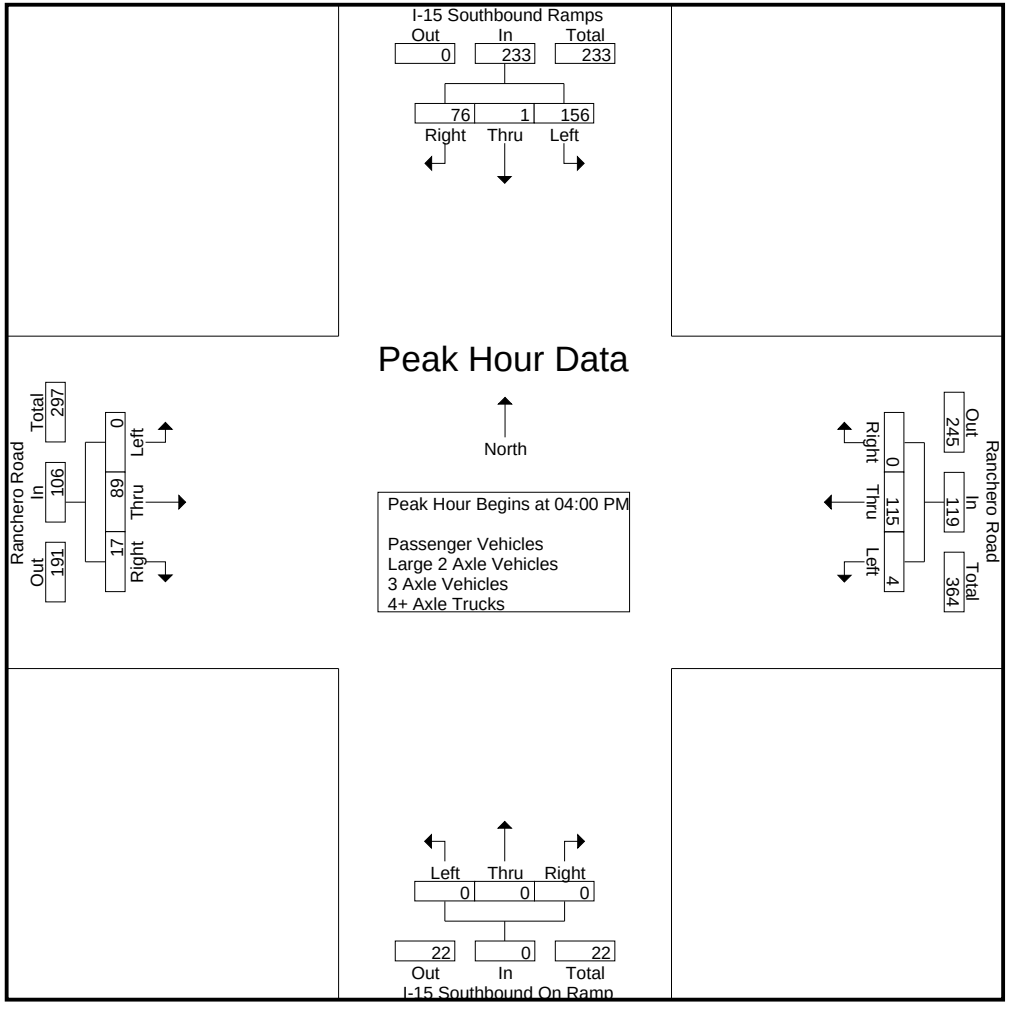
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				04:00 PM				04:00 PM				04:30 PM				
+0 mins.	44	1	9	54	0	**36**	0	**36**	0	0	0	0	0	**27**	4	31	
+15 mins.	39	0	**19**	58	0	25	0	25	0	0	0	0	0	20	6	26	
+30 mins.	48	1	10	59	1	24	0	25	0	0	0	0	0	25	**7**	**32**	
+45 mins.	**60**	**2**	11	**73**	**3**	30	0	33	0	0	0	0	0	27	4	31	
Total Volume	191	4	49	244	4	115	0	119	0	0	0	0	0	99	21	120	
% App. Total	78.3	1.6	20.1		3.4	96.6	0		0	0	0		0	82.5	17.5		
PHF	.796	.500	.645	.836	.333	.799	.000	.826	.000	.000	.000	.000	.000	.917	.750	.938	

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File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- Passenger Vehicles

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	41	0	11	2	52	0	35	0	0	35	0	0	0	0	0	0	20	5	2	25	4	112	116
04:15 PM	38	0	14	2	52	0	24	0	0	24	0	0	0	0	0	0	22	2	1	24	3	100	103
04:30 PM	31	0	19	5	50	1	24	0	0	25	0	0	0	0	0	0	27	1	0	28	5	103	108
04:45 PM	38	0	29	9	67	3	29	0	0	32	0	0	0	0	0	0	20	1	0	21	9	120	129
Total	148	0	73	18	221	4	112	0	0	116	0	0	0	0	0	0	89	9	3	98	21	435	456
05:00 PM	41	0	8	0	49	0	17	0	0	17	0	0	0	0	0	0	24	6	2	30	2	96	98
05:15 PM	39	0	19	4	58	3	22	0	0	25	0	0	0	0	0	0	27	2	0	29	4	112	116
05:30 PM	45	0	9	2	54	0	16	0	0	16	0	0	0	0	0	0	26	0	0	26	2	96	98
05:45 PM	58	1	11	3	70	4	26	0	0	30	0	0	0	0	0	0	19	4	1	23	4	123	127
Total	183	1	47	9	231	7	81	0	0	88	0	0	0	0	0	0	96	12	3	108	12	427	439
Grand Total	331	1	120	27	452	11	193	0	0	204	0	0	0	0	0	0	185	21	6	206	33	862	895
Apprch %	73.2	0.2	26.5			5.4	94.6	0			0	0	0			0	89.8	10.2					
Total %	38.4	0.1	13.9		52.4	1.3	22.4	0		23.7	0	0	0		0	0	21.5	2.4		23.9	3.7	96.3	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**41**	0	11	52	0	**35**	0	**35**	0	0	0	0	0	20	**5**	25	112
04:15 PM	38	0	14	52	0	24	0	24	0	0	0	0	0	22	2	24	100
04:30 PM	31	0	19	50	1	24	0	25	0	0	0	0	0	**27**	1	**28**	103
04:45 PM	38	0	**29**	**67**	**3**	29	0	32	0	0	0	0	0	20	1	21	**120**
Total Volume	148	0	73	221	4	112	0	116	0	0	0	0	0	89	9	98	435
% App. Total	67	0	33		3.4	96.6	0		0	0	0		0	90.8	9.2		
PHF	.902	.000	.629	.825	.333	.800	.000	.829	.000	.000	.000	.000	.000	.824	.450	.875	.906

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Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
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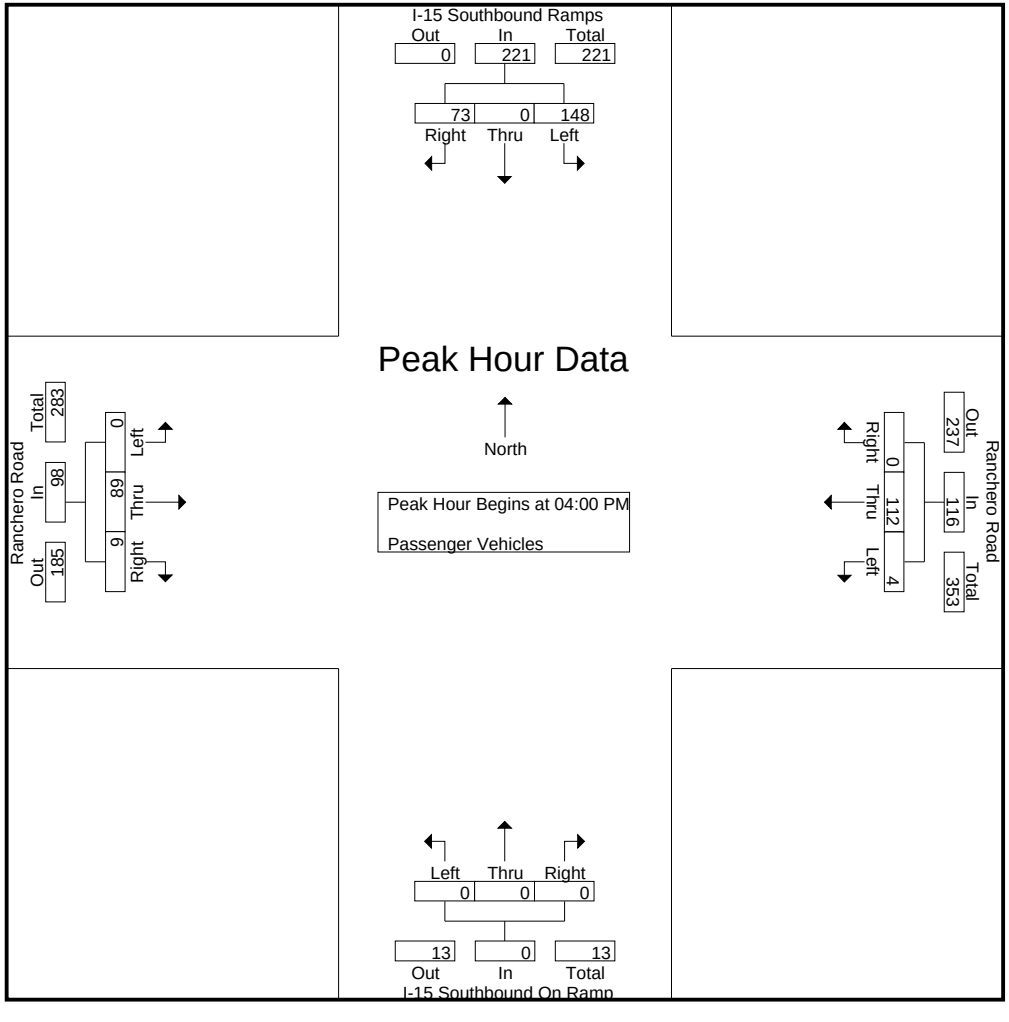

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	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	**41**	0	11	52	0	**35**	0	**35**	0	0	0	0	0	20	**5**	25	
+15 mins.	38	0	14	52	0	24	0	24	0	0	0	0	0	22	2	24	
+30 mins.	31	0	19	50	1	24	0	25	0	0	0	0	0	**27**	1	**28**	
+45 mins.	38	0	**29**	**67**	**3**	29	0	32	0	0	0	0	0	20	1	21	
Total Volume	148	0	73	221	4	112	0	116	0	0	0	0	0	89	9	98	
% App. Total	67	0	33		3.4	96.6	0		0	0	0		0	90.8	9.2		
PHF	.902	.000	.629	.825	.333	.800	.000	.829	.000	.000	.000	.000	.000	.824	.450	.875	

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File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- Large 2 Axle Vehicles

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
Total	2	0	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5
05:00 PM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	0	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Grand Total	7	0	4	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	12
Apprch %	63.6	0	36.4			0	0	0			0	0	0			0	0	0					
Total %	63.6	0	36.4		100	0	0	0		0	0	0	0		0	0	0	0		0	8.3	91.7	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Volume	2	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	4
% App. Total	50	0	50		0	0	0		0	0	0		0	0	0		
PHF	.500	.000	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

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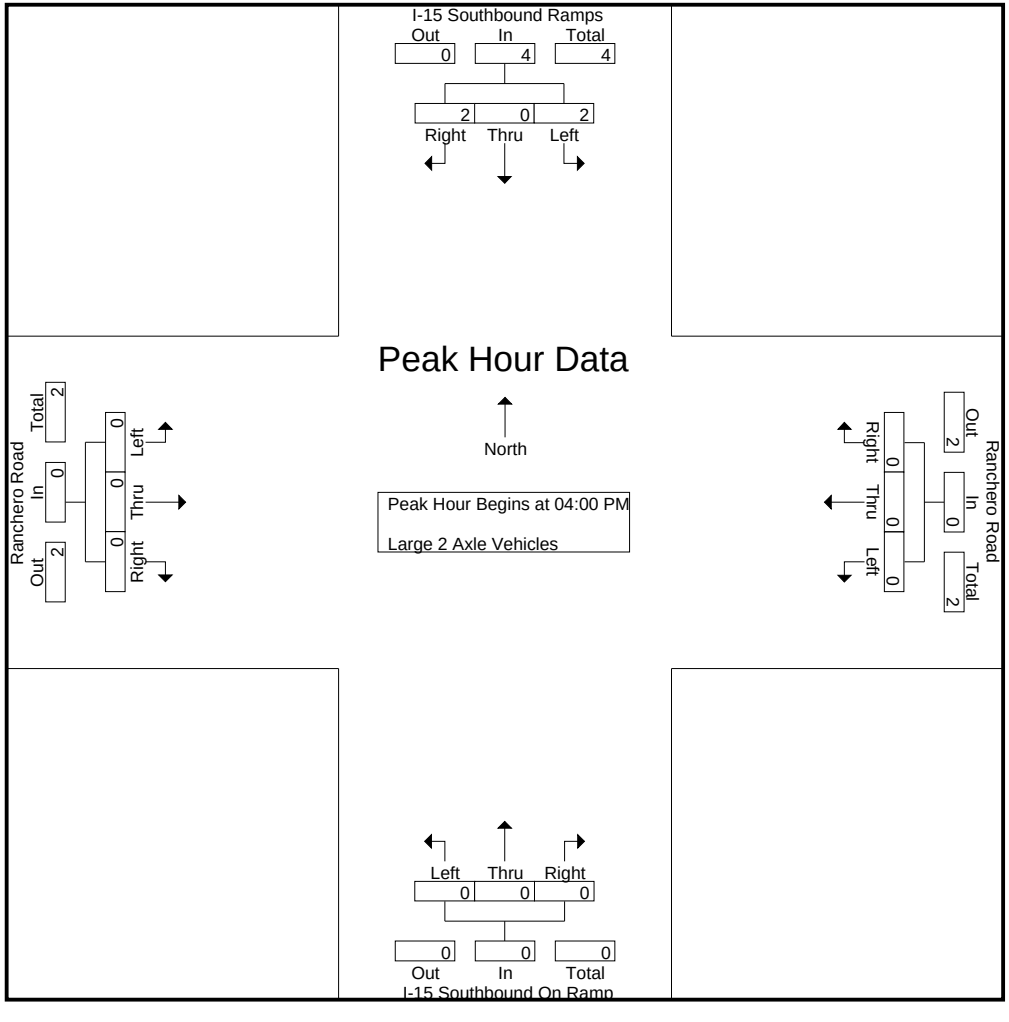
(951) 268-6268

City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	2	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	
% App. Total	50	0	50		0	0	0		0	0	0		0	0	0		
PHF	.500	.000	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 3 Axle Vehicles

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	0	3	3
Grand Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2	0	2	0	5	5
Apprch %	0	0	0			0	100	0			0	0	0			0	0	100					
Total %	0	0	0		0	0	60	0		60	0	0	0		0	0	0	40		40	0	100	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
% App. Total	0	0	0		0	100	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	.500

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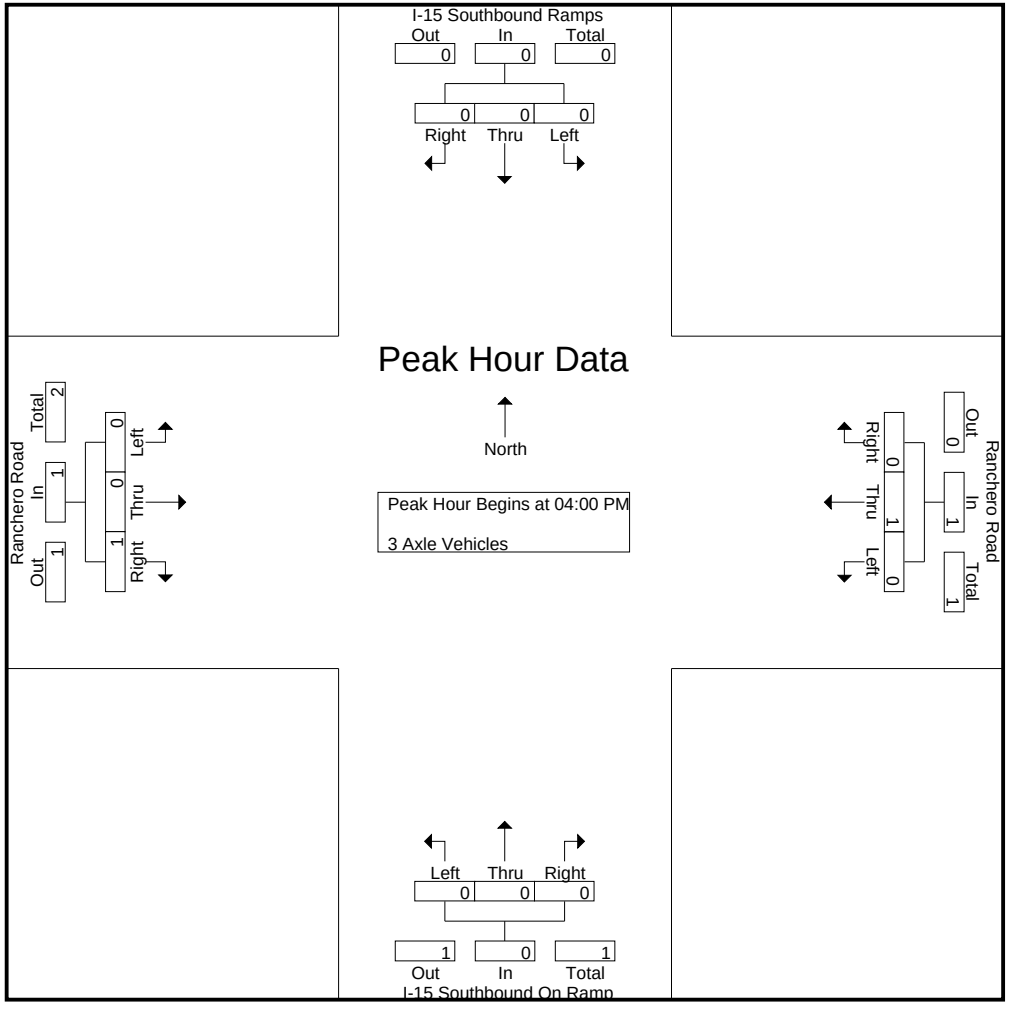
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	
% App. Total	0	0	0		0	100	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250	.250	

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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025

Groups Printed- 4+ Axle Trucks

	I-15 Southbound Ramps Southbound					Ranchero Road Westbound					I-15 Southbound On Ramp Northbound					Ranchero Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	4
04:15 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
04:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	1	3	1	6	7
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4	2	4	2	5	7
Total	6	1	1	0	8	0	2	0	0	2	0	0	0	0	0	0	0	7	3	7	3	17	20
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	2
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	1	2	1	3	4
05:30 PM	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3
05:45 PM	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	4
Total	3	3	0	0	6	1	2	0	0	3	0	0	0	0	0	0	1	2	1	3	1	12	13
Grand Total	9	4	1	0	14	1	4	0	0	5	0	0	0	0	0	0	1	9	4	10	4	29	33
Apprch %	64.3	28.6	7.1			20	80	0			0	0	0			0	10	90					
Total %	31	13.8	3.4		48.3	3.4	13.8	0		17.2	0	0	0		0	0	3.4	31		34.5	12.1	87.9	

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	2	**1**	0	**3**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	4
04:15 PM	1	0	**1**	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	**3**	0	0	3	0	0	0	0	0	0	0	0	0	0	3	3	**6**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	**4**	**4**	5
Total Volume	6	1	1	8	0	2	0	2	0	0	0	0	0	0	7	7	17
% App. Total	75	12.5	12.5		0	100	0		0	0	0		0	0	100		
PHF	.500	.250	.250	.667	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.438	.438	.708

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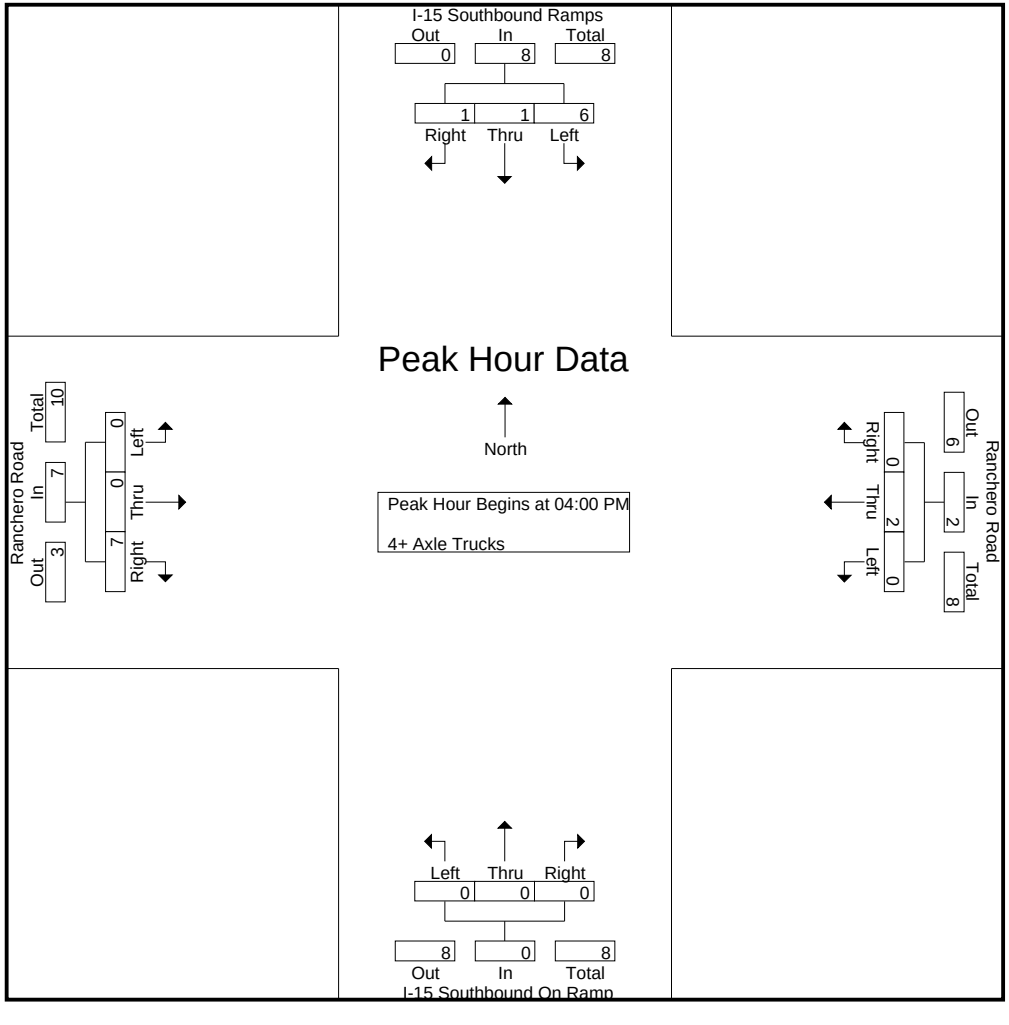
City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



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City of Hesperia
N/S: I-15 Southbound Ramps
E/W: Ranchero Road
Weather: Clear

File Name : 09_HES_15S_Ran PM
Site Code : 05125030
Start Date : 2/11/2025

	I-15 Southbound Ramps Southbound				Ranchero Road Westbound				I-15 Southbound On Ramp Northbound				Ranchero Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:00 PM				04:00 PM				04:00 PM				
+0 mins.	2	**1**	0	**3**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	
+15 mins.	1	0	**1**	2	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	**3**	0	0	3	0	0	0	0	0	0	0	0	0	0	3	3	
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	**4**	**4**	
Total Volume	6	1	1	8	0	2	0	2	0	0	0	0	0	0	7	7	
% App. Total	75	12.5	12.5		0	100	0		0	0	0		0	0	100		
PHF	.500	.250	.250	.667	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.438	.438	

Location: Hesperia
N/S: I-15 SB Ramps
E/W: Ranchero Road

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg I-15 SB Ramps	East Leg Ranchero Road	South Leg I-15 SB Ramps	West Leg Ranchero Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 SB Ramps	East Leg Ranchero Road	South Leg I-15 SB Ramps	West Leg Ranchero Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: I-15 SB Ramps
E/W: Ranchero Road

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound I-15 SB Ramps			Westbound Ranchero Road			Northbound I-15 SB Ramps			Eastbound Ranchero Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-15 SB Ramps			Westbound Ranchero Road			Northbound I-15 SB Ramps			Eastbound Ranchero Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	19	35	54	21	0	21	0	32	32	107
07:15 AM	13	20	33	15	0	15	0	33	33	81
07:30 AM	44	16	60	25	0	25	0	22	22	107
07:45 AM	7	26	33	17	0	17	0	21	21	71
Total	83	97	180	78	0	78	0	108	108	366
08:00 AM	10	16	26	13	0	13	0	18	18	57
08:15 AM	3	20	23	7	0	7	0	15	15	45
08:30 AM	4	20	24	10	0	10	0	20	20	54
08:45 AM	3	27	30	10	0	10	0	26	26	66
Total	20	83	103	40	0	40	0	79	79	222
Grand Total	103	180	283	118	0	118	0	187	187	588
Apprch %	36.4	63.6		100	0		0	100		
Total %	17.5	30.6	48.1	20.1	0	20.1	0	31.8	31.8	
Passenger Vehicles	94	120	214	108	0	108	0	138	138	460
% Passenger Vehicles	91.3	66.7	75.6	91.5	0	91.5	0	73.8	73.8	78.2
Large 2 Axle Vehicles	4	5	9	3	0	3	0	6	6	18
% Large 2 Axle Vehicles	3.9	2.8	3.2	2.5	0	2.5	0	3.2	3.2	3.1
3 Axle Vehicles	3	6	9	2	0	2	0	1	1	12
% 3 Axle Vehicles	2.9	3.3	3.2	1.7	0	1.7	0	0.5	0.5	2
4+ Axle Trucks	2	49	51	5	0	5	0	42	42	98
% 4+ Axle Trucks	1.9	27.2	18	4.2	0	4.2	0	22.5	22.5	16.7

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	19	**35**	54	21	0	21	0	32	32	**107**
07:15 AM	13	20	33	15	0	15	0	**33**	**33**	81
07:30 AM	**44**	16	**60**	**25**	0	**25**	0	22	22	107
07:45 AM	7	26	33	17	0	17	0	21	21	71
Total Volume	83	97	180	78	0	78	0	108	108	366
% App. Total	46.1	53.9		100	0		0	100		
PHF	.472	.693	.750	.780	.000	.780	.000	.818	.818	.855

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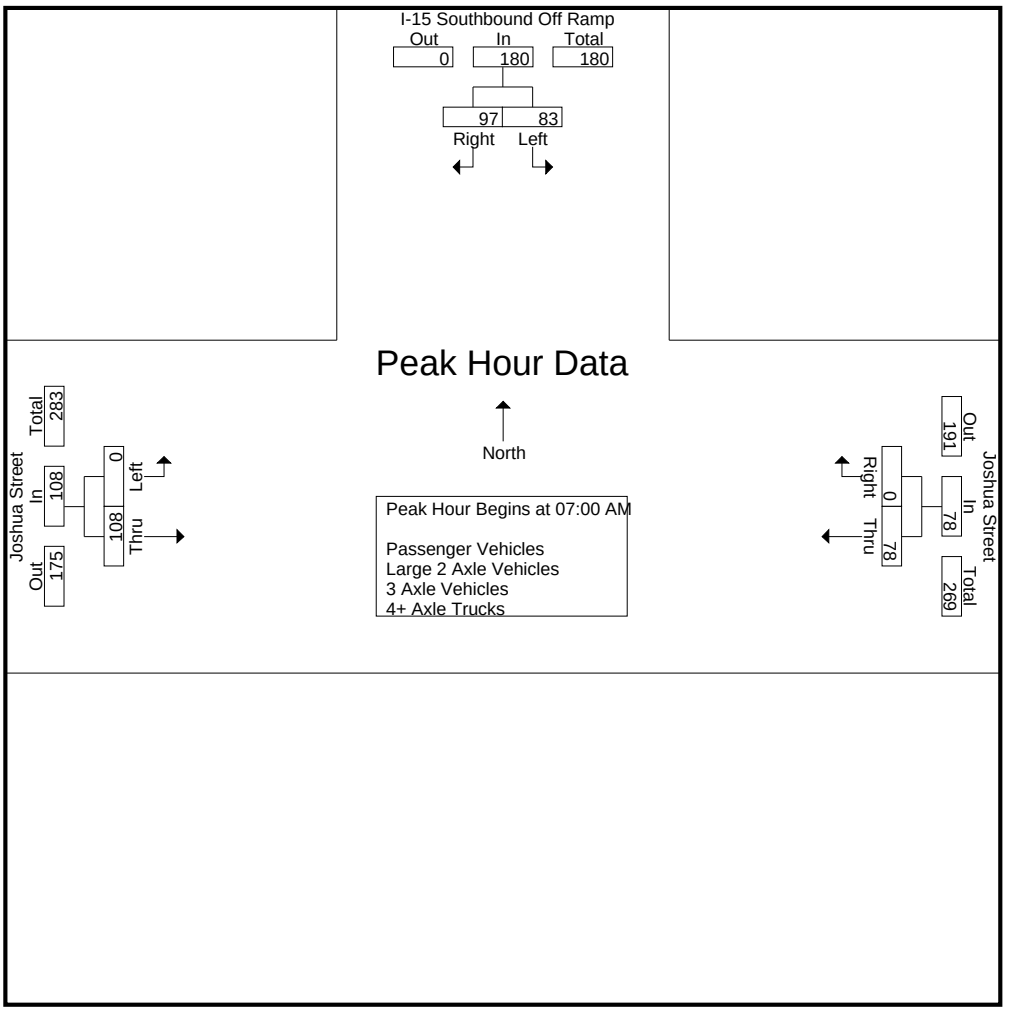
City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	19	**35**	54	21	0	21	0	32	32
+15 mins.	13	20	33	15	0	15	0	**33**	**33**
+30 mins.	**44**	16	**60**	**25**	0	**25**	0	22	22
+45 mins.	7	26	33	17	0	17	0	21	21
Total Volume	83	97	180	78	0	78	0	108	108
% App. Total	46.1	53.9		100	0		0	100	
PHF	.472	.693	.750	.780	.000	.780	.000	.818	.818

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos AM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- Passenger Vehicles

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	19	27	46	21	0	21	0	23	23	90
07:15 AM	10	15	25	14	0	14	0	25	25	64
07:30 AM	42	12	54	23	0	23	0	17	17	94
07:45 AM	7	18	25	16	0	16	0	13	13	54
Total	78	72	150	74	0	74	0	78	78	302
08:00 AM	6	11	17	12	0	12	0	13	13	42
08:15 AM	3	10	13	6	0	6	0	12	12	31
08:30 AM	4	12	16	8	0	8	0	17	17	41
08:45 AM	3	15	18	8	0	8	0	18	18	44
Total	16	48	64	34	0	34	0	60	60	158
Grand Total	94	120	214	108	0	108	0	138	138	460
Apprch %	43.9	56.1		100	0		0	100		
Total %	20.4	26.1	46.5	23.5	0	23.5	0	30	30	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	19	**27**	46	21	0	21	0	23	23	90
07:15 AM	10	15	25	14	0	14	0	**25**	**25**	64
07:30 AM	**42**	12	**54**	**23**	0	**23**	0	17	17	**94**
07:45 AM	7	18	25	16	0	16	0	13	13	54
Total Volume	78	72	150	74	0	74	0	78	78	302
% App. Total	52	48		100	0		0	100		
PHF	.464	.667	.694	.804	.000	.804	.000	.780	.780	.803

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos AM
Site Code : 05125030
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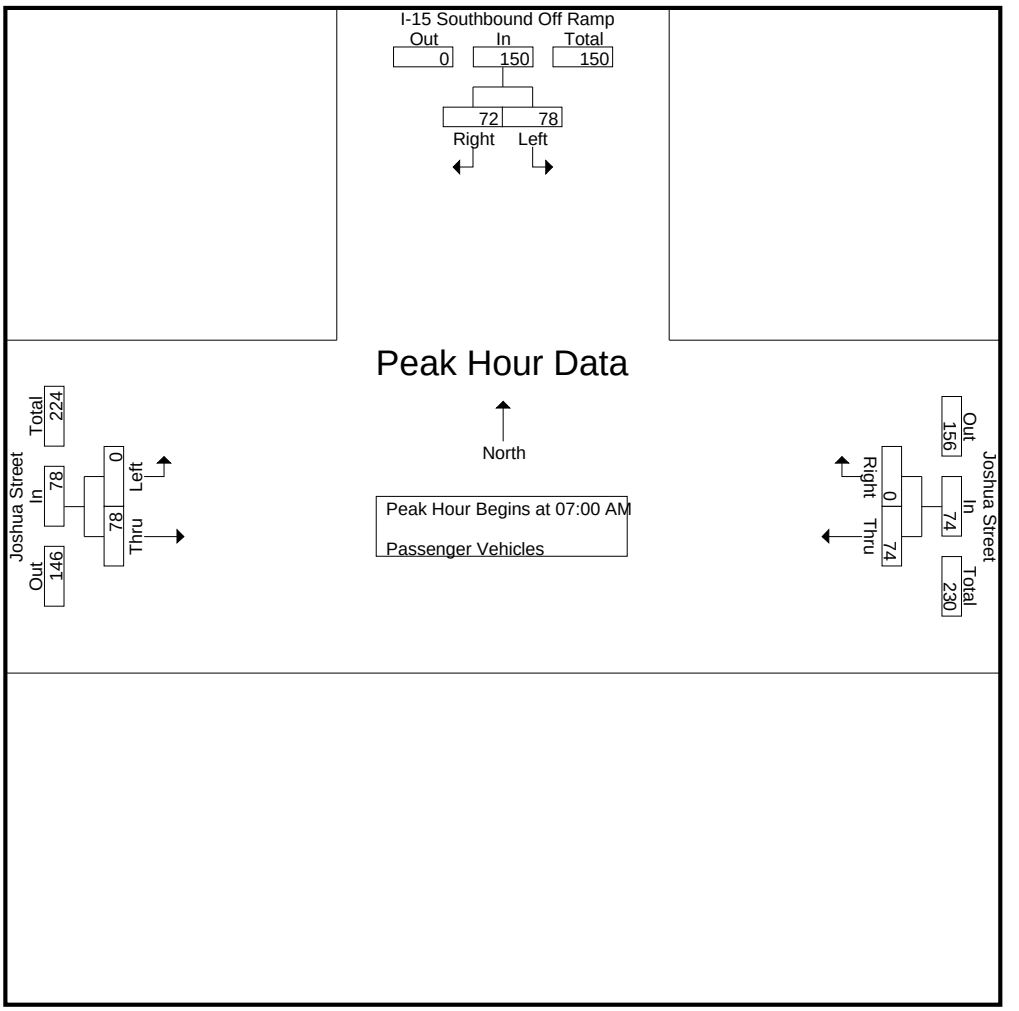

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	19	**27**	46	21	0	21	0	23	23
+15 mins.	10	15	25	14	0	14	0	**25**	**25**
+30 mins.	**42**	12	**54**	**23**	0	**23**	0	17	17
+45 mins.	7	18	25	16	0	16	0	13	13
Total Volume	78	72	150	74	0	74	0	78	78
% App. Total	52	48		100	0		0	100	
PHF	.464	.667	.694	.804	.000	.804	.000	.780	.780

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos AM
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Groups Printed- Large 2 Axle Vehicles

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	1	1
07:15 AM	0	0	0	0	0	0	0	1	1	1
07:30 AM	1	1	2	0	0	0	0	0	0	2
07:45 AM	0	1	1	1	0	1	0	1	1	3
Total	1	2	3	1	0	1	0	3	3	7
08:00 AM	3	0	3	1	0	1	0	2	2	6
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	2	2	0	0	0	0	1	1	3
08:45 AM	0	1	1	1	0	1	0	0	0	2
Total	3	3	6	2	0	2	0	3	3	11
Grand Total	4	5	9	3	0	3	0	6	6	18
Apprch %	44.4	55.6		100	0		0	100		
Total %	22.2	27.8	50	16.7	0	16.7	0	33.3	33.3	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	**1**	**1**	1
07:15 AM	0	0	0	0	0	0	0	1	1	1
07:30 AM	**1**	**1**	**2**	0	0	0	0	0	0	2
07:45 AM	0	1	1	**1**	0	**1**	0	1	1	**3**
Total Volume	1	2	3	1	0	1	0	3	3	7
% App. Total	33.3	66.7		100	0		0	100		
PHF	.250	.500	.375	.250	.000	.250	.000	.750	.750	.583

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

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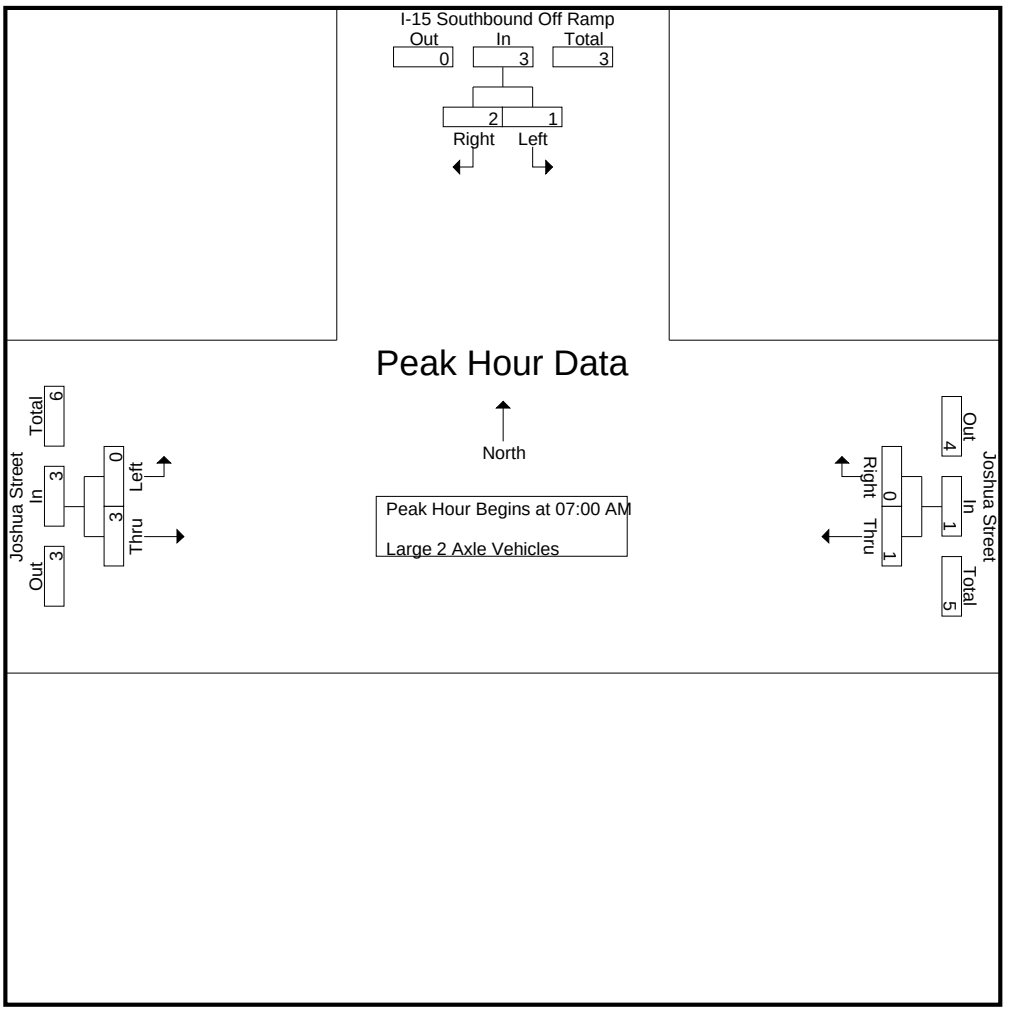

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	1	1
+30 mins.	**1**	**1**	**2**	0	0	0	0	0	0
+45 mins.	0	1	1	**1**	0	**1**	0	1	1
Total Volume	1	2	3	1	0	1	0	3	3
% App. Total	33.3	66.7		100	0		0	100	
PHF	.250	.500	.375	.250	.000	.250	.000	.750	.750

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos AM
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Groups Printed- 3 Axle Vehicles

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	2	2	0	0	0	0	0	0	2
07:15 AM	2	1	3	1	0	1	0	1	1	5
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	3	5	1	0	1	0	1	1	7
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	0	1	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	1	0	1	0	0	0	1
08:45 AM	0	2	2	0	0	0	0	0	0	2
Total	1	3	4	1	0	1	0	0	0	5
Grand Total	3	6	9	2	0	2	0	1	1	12
Apprch %	33.3	66.7		100	0		0	100		
Total %	25	50	75	16.7	0	16.7	0	8.3	8.3	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**2**	2	0	0	0	0	0	0	2
07:15 AM	**2**	1	**3**	**1**	0	**1**	0	**1**	**1**	**5**
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	3	5	1	0	1	0	1	1	7
% App. Total	40	60		100	0		0	100		
PHF	.250	.375	.417	.250	.000	.250	.000	.250	.250	.350

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City of Hesperia
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Weather: Clear

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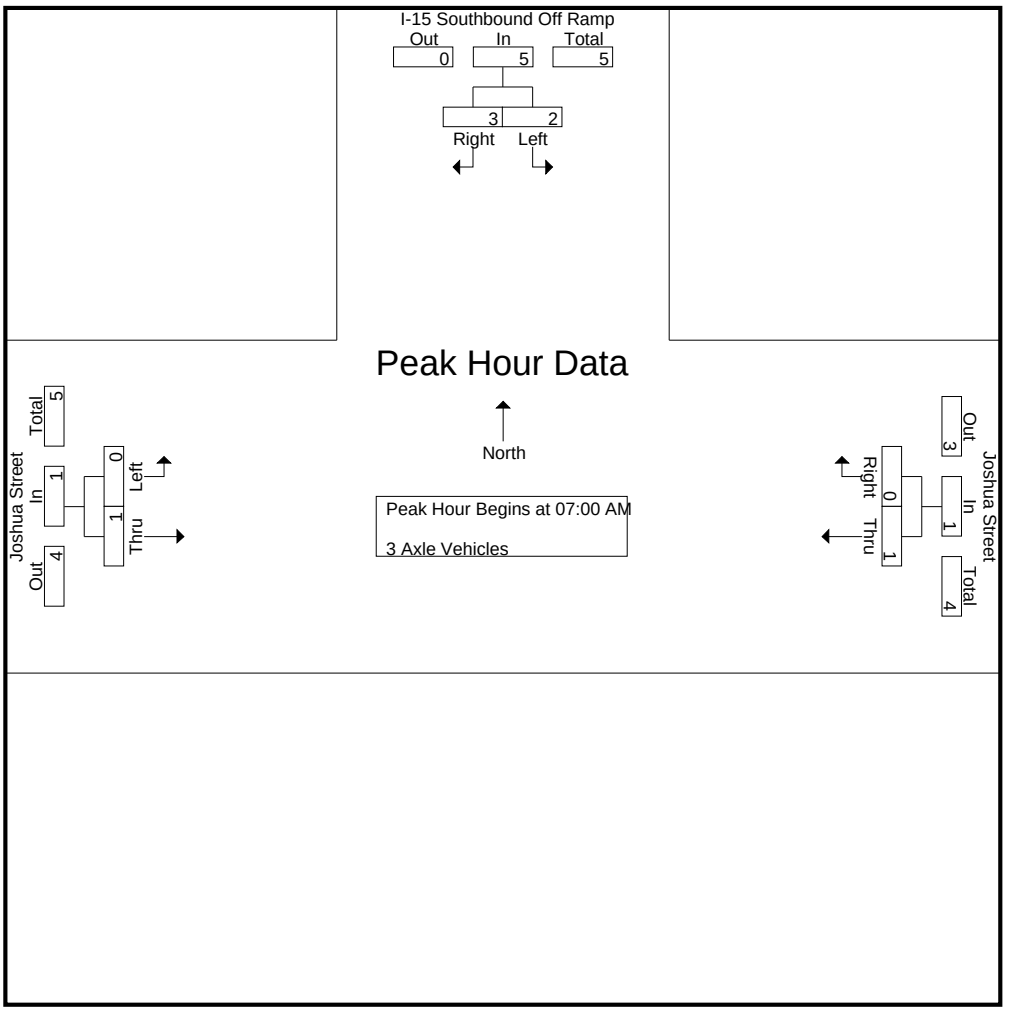

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	**2**	2	0	0	0	0	0	0
+15 mins.	**2**	1	**3**	**1**	0	**1**	0	**1**	**1**
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	2	3	5	1	0	1	0	1	1
% App. Total	40	60		100	0		0	100	
PHF	.250	.375	.417	.250	.000	.250	.000	.250	.250

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

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Groups Printed- 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	6	6	0	0	0	0	8	8	14
07:15 AM	1	4	5	0	0	0	0	6	6	11
07:30 AM	1	3	4	2	0	2	0	5	5	11
07:45 AM	0	7	7	0	0	0	0	7	7	14
Total	2	20	22	2	0	2	0	26	26	50
08:00 AM	0	5	5	0	0	0	0	3	3	8
08:15 AM	0	9	9	1	0	1	0	3	3	13
08:30 AM	0	6	6	1	0	1	0	2	2	9
08:45 AM	0	9	9	1	0	1	0	8	8	18
Total	0	29	29	3	0	3	0	16	16	48
Grand Total	2	49	51	5	0	5	0	42	42	98
Apprch %	3.9	96.1		100	0		0	100		
Total %	2	50	52	5.1	0	5.1	0	42.9	42.9	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	6	6	0	0	0	0	**8**	**8**	**14**
07:15 AM	**1**	4	5	0	0	0	0	6	6	11
07:30 AM	1	3	4	**2**	0	**2**	0	5	5	11
07:45 AM	0	**7**	**7**	0	0	0	0	7	7	14
Total Volume	2	20	22	2	0	2	0	26	26	50
% App. Total	9.1	90.9		100	0		0	100		
PHF	.500	.714	.786	.250	.000	.250	.000	.813	.813	.893

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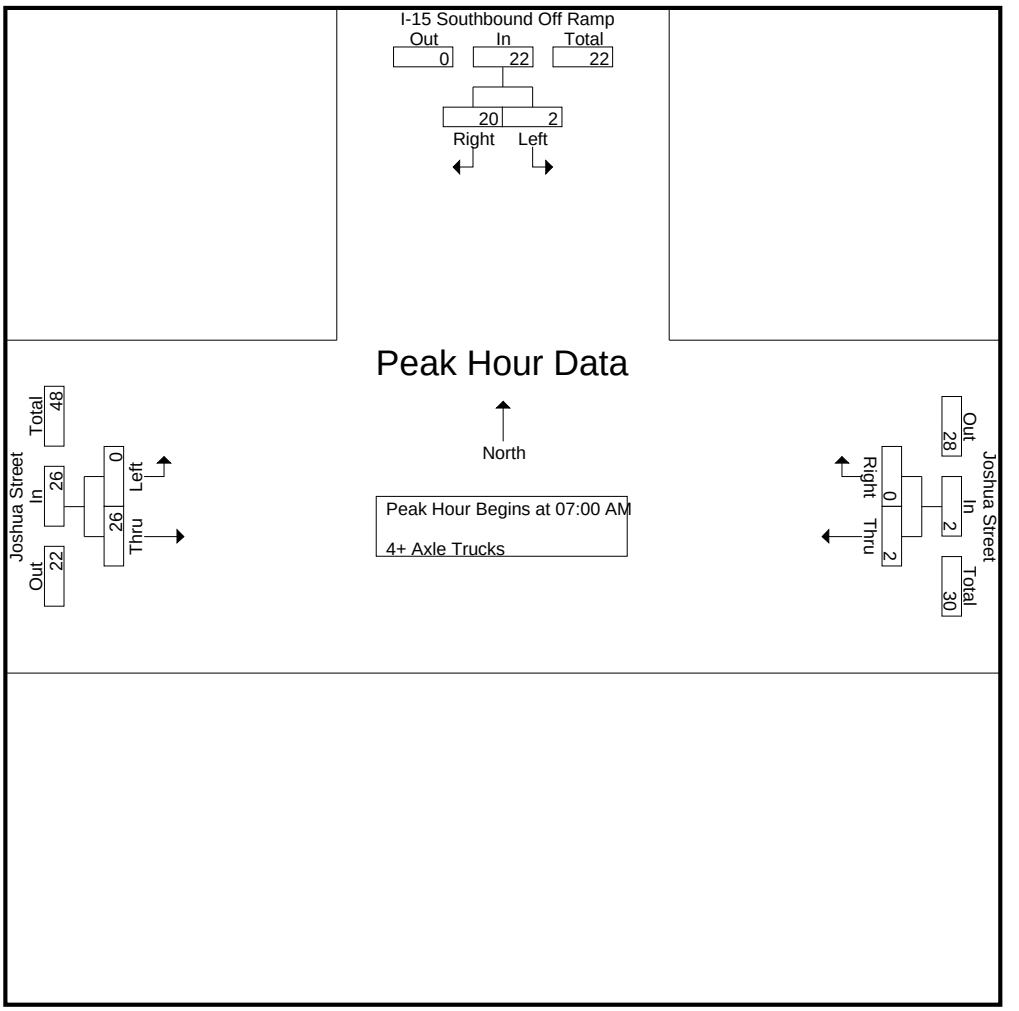

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	6	6	0	0	0	0	**8**	**8**
+15 mins.	**1**	4	5	0	0	0	0	6	6
+30 mins.	1	3	4	**2**	0	**2**	0	5	5
+45 mins.	0	**7**	**7**	0	0	0	0	7	7
Total Volume	2	20	22	2	0	2	0	26	26
% App. Total	9.1	90.9		100	0		0	100	
PHF	.500	.714	.786	.250	.000	.250	.000	.813	.813

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City of Hesperia
N/S: I-15 Southbound Off Ramp
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	6	25	31	22	0	22	0	35	35	88
04:15 PM	5	14	19	15	0	15	0	33	33	67
04:30 PM	3	34	37	14	0	14	0	29	29	80
04:45 PM	4	26	30	12	0	12	0	37	37	79
Total	18	99	117	63	0	63	0	134	134	314
05:00 PM	6	14	20	15	0	15	0	37	37	72
05:15 PM	3	24	27	18	0	18	0	20	20	65
05:30 PM	1	20	21	14	0	14	0	40	40	75
05:45 PM	5	25	30	9	0	9	0	23	23	62
Total	15	83	98	56	0	56	0	120	120	274
Grand Total	33	182	215	119	0	119	0	254	254	588
Apprch %	15.3	84.7		100	0		0	100		
Total %	5.6	31	36.6	20.2	0	20.2	0	43.2	43.2	
Passenger Vehicles	31	116	147	113	0	113	0	212	212	472
% Passenger Vehicles	93.9	63.7	68.4	95	0	95	0	83.5	83.5	80.3
Large 2 Axle Vehicles	0	6	6	3	0	3	0	0	0	9
% Large 2 Axle Vehicles	0	3.3	2.8	2.5	0	2.5	0	0	0	1.5
3 Axle Vehicles	1	2	3	1	0	1	0	1	1	5
% 3 Axle Vehicles	3	1.1	1.4	0.8	0	0.8	0	0.4	0.4	0.9
4+ Axle Trucks	1	58	59	2	0	2	0	41	41	102
% 4+ Axle Trucks	3	31.9	27.4	1.7	0	1.7	0	16.1	16.1	17.3

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**6**	25	31	**22**	0	**22**	0	35	35	**88**
04:15 PM	5	14	19	15	0	15	0	33	33	67
04:30 PM	3	**34**	**37**	14	0	14	0	29	29	80
04:45 PM	4	26	30	12	0	12	0	**37**	**37**	79
Total Volume	18	99	117	63	0	63	0	134	134	314
% App. Total	15.4	84.6		100	0		0	100		
PHF	.750	.728	.791	.716	.000	.716	.000	.905	.905	.892

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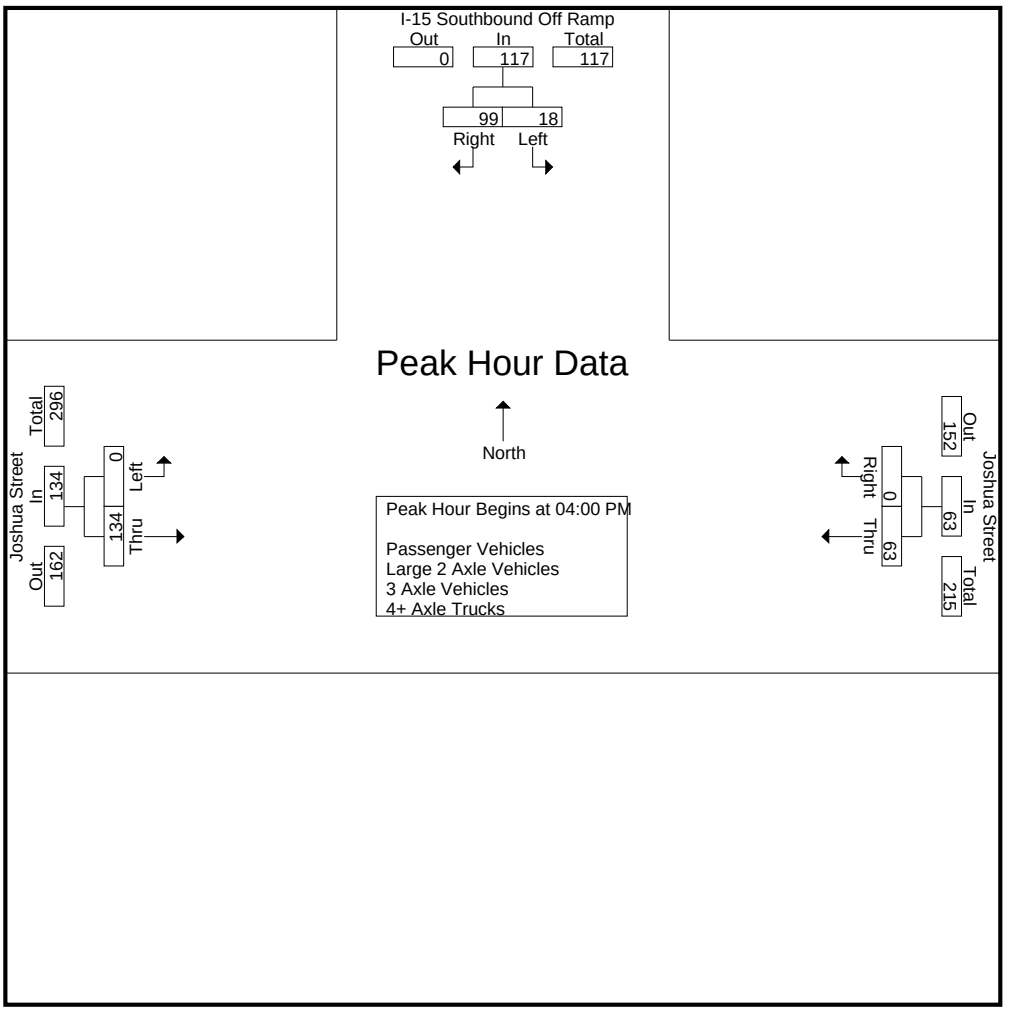

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:15 PM		
+0 mins.	**6**	25	31	**22**	0	**22**	0	33	33
+15 mins.	5	14	19	15	0	15	0	29	29
+30 mins.	3	**34**	**37**	14	0	14	0	**37**	**37**
+45 mins.	4	26	30	12	0	12	0	37	37
Total Volume	18	99	117	63	0	63	0	136	136
% App. Total	15.4	84.6		100	0		0	100	
PHF	.750	.728	.791	.716	.000	.716	.000	.919	.919

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Groups Printed- Passenger Vehicles

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	6	15	21	20	0	20	0	24	24	65
04:15 PM	5	13	18	15	0	15	0	28	28	61
04:30 PM	3	17	20	13	0	13	0	25	25	58
04:45 PM	2	16	18	11	0	11	0	28	28	57
Total	16	61	77	59	0	59	0	105	105	241
05:00 PM	6	10	16	15	0	15	0	32	32	63
05:15 PM	3	15	18	18	0	18	0	15	15	51
05:30 PM	1	14	15	13	0	13	0	38	38	66
05:45 PM	5	16	21	8	0	8	0	22	22	51
Total	15	55	70	54	0	54	0	107	107	231
Grand Total	31	116	147	113	0	113	0	212	212	472
Apprch %	21.1	78.9		100	0		0	100		
Total %	6.6	24.6	31.1	23.9	0	23.9	0	44.9	44.9	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**6**	15	**21**	**20**	0	**20**	0	24	24	**65**
04:15 PM	5	13	18	15	0	15	0	**28**	**28**	61
04:30 PM	3	**17**	20	13	0	13	0	25	25	58
04:45 PM	2	16	18	11	0	11	0	28	28	57
Total Volume	16	61	77	59	0	59	0	105	105	241
% App. Total	20.8	79.2		100	0		0	100		
PHF	.667	.897	.917	.738	.000	.738	.000	.938	.938	.927

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City of Hesperia
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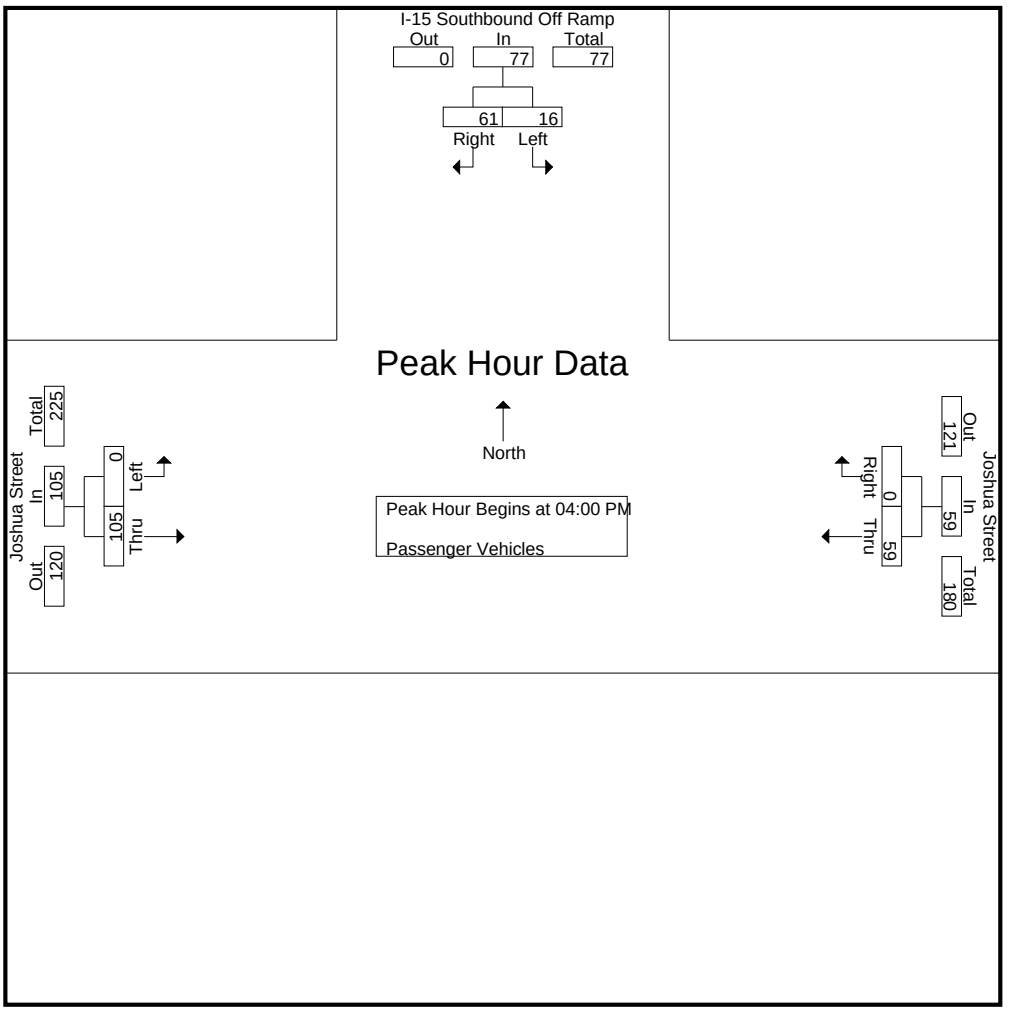

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**6**	15	**21**	**20**	0	**20**	0	24	24
+15 mins.	5	13	18	15	0	15	0	**28**	**28**
+30 mins.	3	**17**	20	13	0	13	0	25	25
+45 mins.	2	16	18	11	0	11	0	28	28
Total Volume	16	61	77	59	0	59	0	105	105
% App. Total	20.8	79.2		100	0		0	100	
PHF	.667	.897	.917	.738	.000	.738	.000	.938	.938

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	4	4	1	0	1	0	0	0	5
04:45 PM	0	2	2	1	0	1	0	0	0	3
Total	0	6	6	2	0	2	0	0	0	8
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	1	0	1	0	0	0	1
Grand Total	0	6	6	3	0	3	0	0	0	9
Apprch %	0	100		100	0		0	0		
Total %	0	66.7	66.7	33.3	0	33.3	0	0	0	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	**4**	**4**	**1**	0	**1**	0	0	0	**5**
04:45 PM	0	2	2	1	0	1	0	0	0	3
Total Volume	0	6	6	2	0	2	0	0	0	8
% App. Total	0	100		100	0		0	0		
PHF	.000	.375	.375	.500	.000	.500	.000	.000	.000	.400

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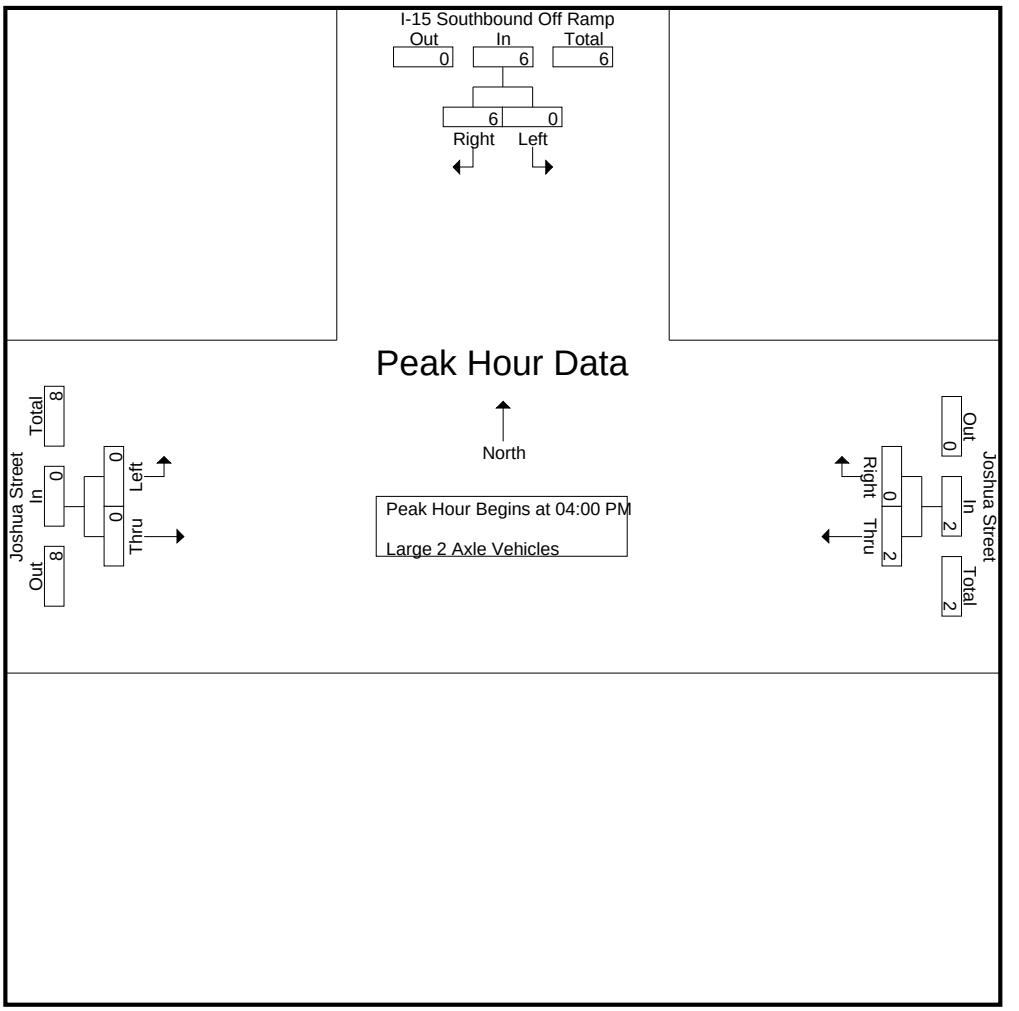
City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**4**	**4**	**1**	0	**1**	0	0	0
+45 mins.	0	2	2	1	0	1	0	0	0
Total Volume	0	6	6	2	0	2	0	0	0
% App. Total	0	100		100	0		0	0	
PHF	.000	.375	.375	.500	.000	.500	.000	.000	.000

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	1	0	0	0	0	1	1	2
Total	1	2	3	0	0	0	0	1	1	4
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	1
Grand Total	1	2	3	1	0	1	0	1	1	5
Apprch %	33.3	66.7		100	0		0	100		
Total %	20	40	60	20	0	20	0	20	20	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	**2**	**2**	0	0	0	0	0	0	**2**
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	**1**	0	1	0	0	0	0	**1**	**1**	2
Total Volume	1	2	3	0	0	0	0	1	1	4
% App. Total	33.3	66.7		0	0		0	100		
PHF	.250	.250	.375	.000	.000	.000	.000	.250	.250	.500

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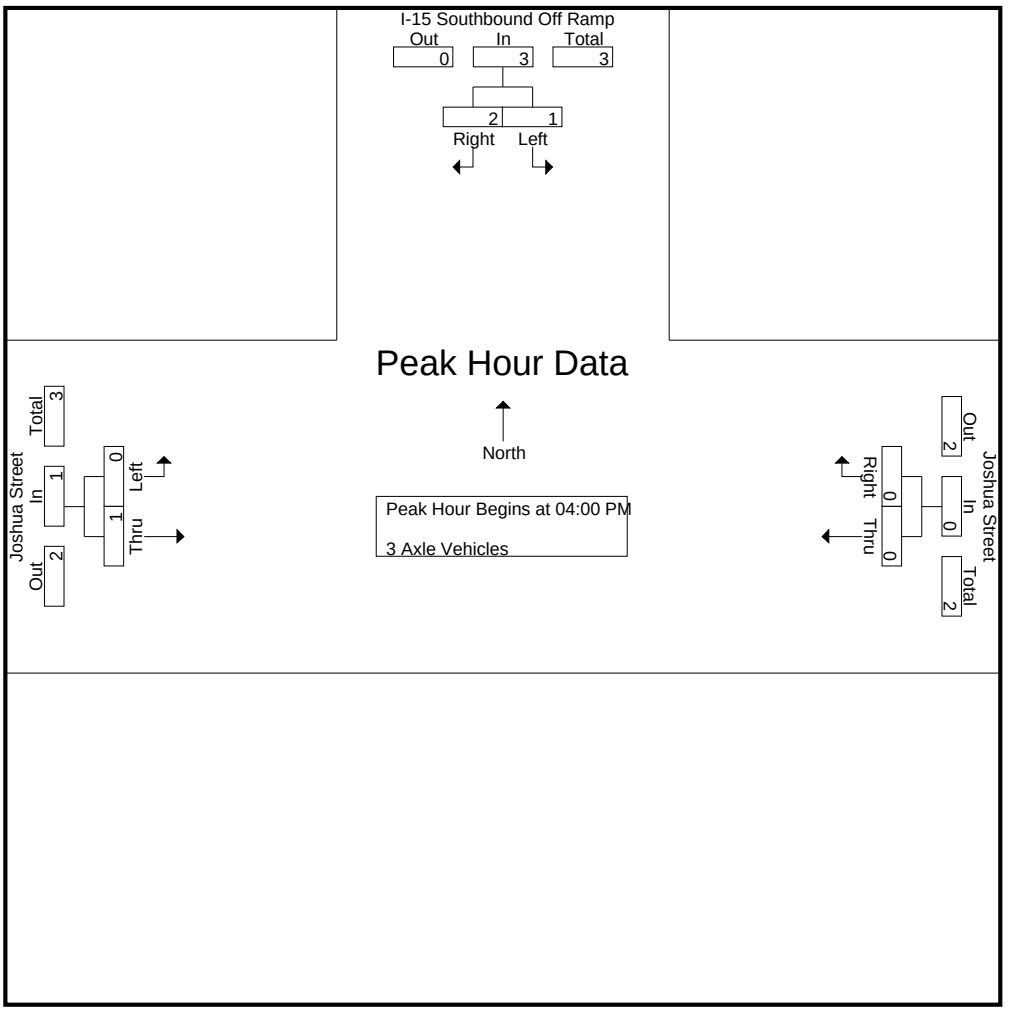
City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	**2**	**2**	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	**1**	0	1	0	0	0	0	**1**	**1**
Total Volume	1	2	3	0	0	0	0	1	1
% App. Total	33.3	66.7		0	0		0	100	
PHF	.250	.250	.375	.000	.000	.000	.000	.250	.250

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	8	8	2	0	2	0	11	11	21
04:15 PM	0	1	1	0	0	0	0	5	5	6
04:30 PM	0	13	13	0	0	0	0	4	4	17
04:45 PM	1	8	9	0	0	0	0	8	8	17
Total	1	30	31	2	0	2	0	28	28	61
05:00 PM	0	4	4	0	0	0	0	5	5	9
05:15 PM	0	9	9	0	0	0	0	5	5	14
05:30 PM	0	6	6	0	0	0	0	2	2	8
05:45 PM	0	9	9	0	0	0	0	1	1	10
Total	0	28	28	0	0	0	0	13	13	41
Grand Total	1	58	59	2	0	2	0	41	41	102
Apprch %	1.7	98.3		100	0		0	100		
Total %	1	56.9	57.8	2	0	2	0	40.2	40.2	

	I-15 Southbound Off Ramp Southbound			Joshua Street Westbound			Joshua Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	8	8	**2**	0	**2**	0	**11**	**11**	**21**
04:15 PM	0	1	1	0	0	0	0	5	5	6
04:30 PM	0	**13**	**13**	0	0	0	0	4	4	17
04:45 PM	**1**	8	9	0	0	0	0	8	8	17
Total Volume	1	30	31	2	0	2	0	28	28	61
% App. Total	3.2	96.8		100	0		0	100		
PHF	.250	.577	.596	.250	.000	.250	.000	.636	.636	.726

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City of Hesperia
N/S: I-15 Southbound Off Ramp
E/W: Joshua Street
Weather: Clear

File Name : 10_HES_15S Off_Jos PM
Site Code : 05125030
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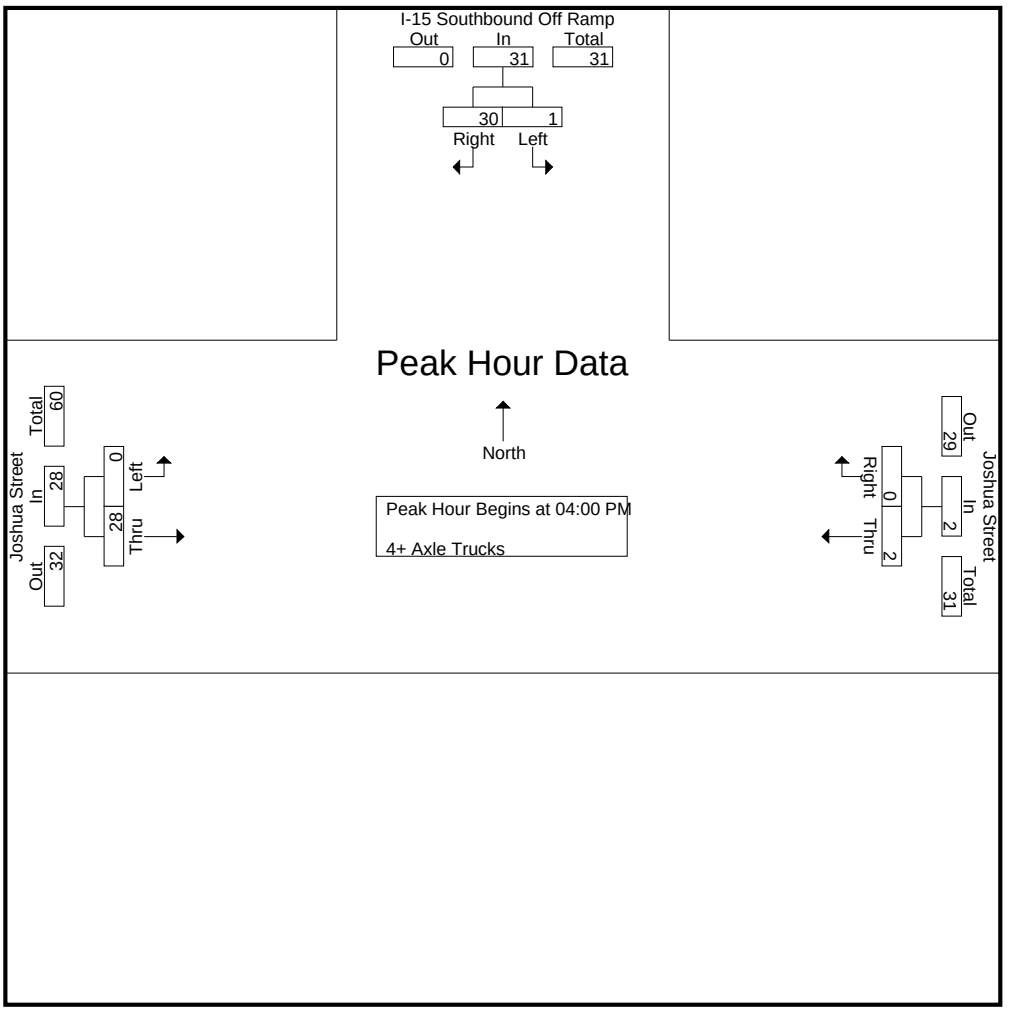

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	8	8	**2**	0	**2**	0	**11**	**11**
+15 mins.	0	1	1	0	0	0	0	5	5
+30 mins.	0	**13**	**13**	0	0	0	0	4	4
+45 mins.	**1**	8	9	0	0	0	0	8	8
Total Volume	1	30	31	2	0	2	0	28	28
% App. Total	3.2	96.8		100	0		0	100	
PHF	.250	.577	.596	.250	.000	.250	.000	.636	.636

Location: Hesperia
N/S: I-15 SB Off Ramp
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg I-15 SB Off Ramp	East Leg Joshua Street	South Leg Dead End	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 SB Off Ramp	East Leg Joshua Street	South Leg Dead End	West Leg Joshua Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

Location: Hesperia
N/S: I-15 SB Off Ramp
E/W: Joshua Street

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound I-15 SB Off Ramp			Westbound Joshua Street			Northbound Dead End			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-15 SB Off Ramp			Westbound Joshua Street			Northbound Dead End			Eastbound Joshua Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	1	0	0	0	0	0	0	1

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City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	30	0	30	0	10	10	0	2	2	42
07:15 AM	50	0	50	2	9	11	0	1	1	62
07:30 AM	40	2	42	1	10	11	0	2	2	55
07:45 AM	33	0	33	0	5	5	0	4	4	42
Total	153	2	155	3	34	37	0	9	9	201
08:00 AM	9	0	9	1	8	9	0	0	0	18
08:15 AM	14	0	14	0	7	7	0	1	1	22
08:30 AM	13	0	13	2	6	8	0	1	1	22
08:45 AM	12	2	14	1	2	3	0	0	0	17
Total	48	2	50	4	23	27	0	2	2	79
Grand Total	201	4	205	7	57	64	0	11	11	280
Apprch %	98	2		10.9	89.1		0	100		
Total %	71.8	1.4	73.2	2.5	20.4	22.9	0	3.9	3.9	
Passenger Vehicles	188	0	188	3	48	51	0	1	1	240
% Passenger Vehicles	93.5	0	91.7	42.9	84.2	79.7	0	9.1	9.1	85.7
Large 2 Axle Vehicles	8	1	9	1	5	6	0	4	4	19
% Large 2 Axle Vehicles	4	25	4.4	14.3	8.8	9.4	0	36.4	36.4	6.8
3 Axle Vehicles	3	2	5	0	0	0	0	1	1	6
% 3 Axle Vehicles	1.5	50	2.4	0	0	0	0	9.1	9.1	2.1
4+ Axle Trucks	2	1	3	3	4	7	0	5	5	15
% 4+ Axle Trucks	1	25	1.5	42.9	7	10.9	0	45.5	45.5	5.4

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	30	0	30	0	**10**	10	0	2	2	42
07:15 AM	**50**	0	**50**	**2**	9	**11**	0	1	1	**62**
07:30 AM	40	**2**	42	1	10	11	0	2	2	55
07:45 AM	33	0	33	0	5	5	0	**4**	**4**	42
Total Volume	153	2	155	3	34	37	0	9	9	201
% App. Total	98.7	1.3		8.1	91.9		0	100		
PHF	.765	.250	.775	.375	.850	.841	.000	.563	.563	.810

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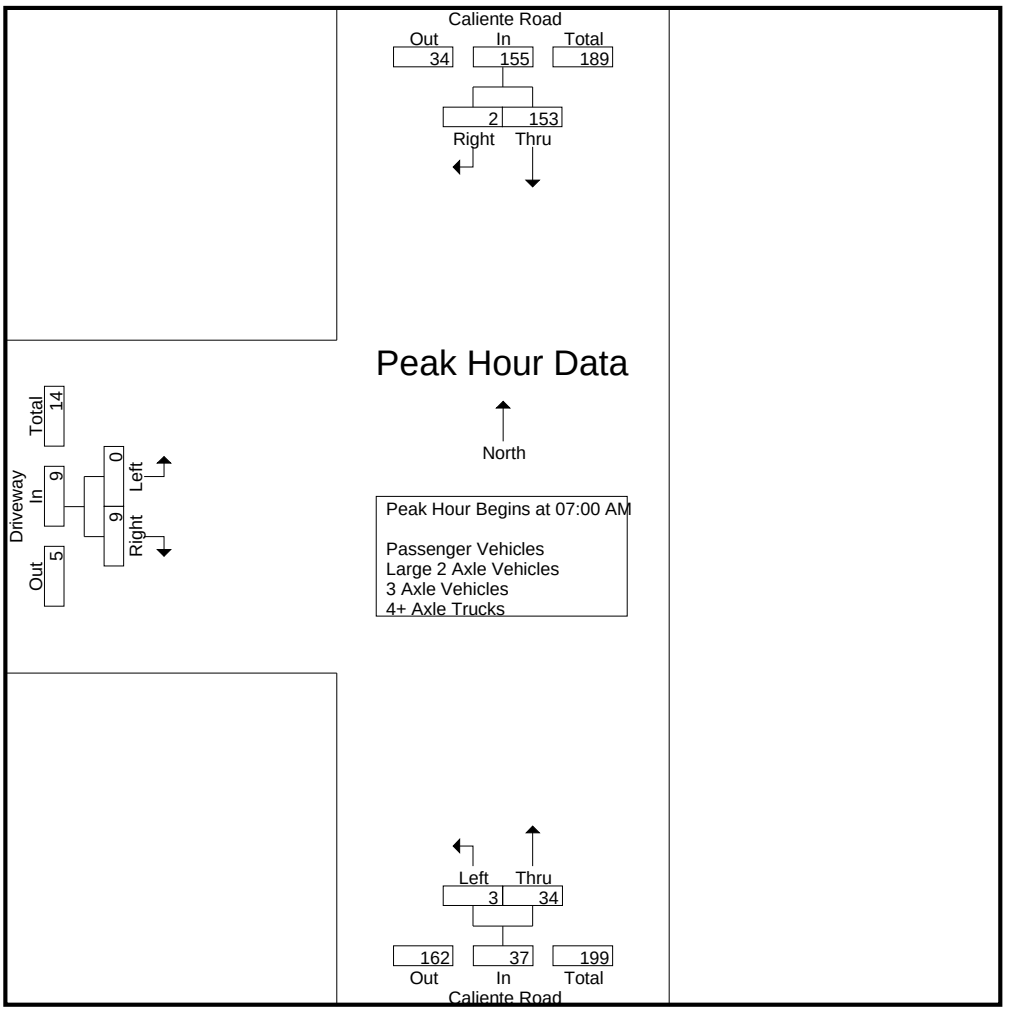
City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	30	0	30	0	**10**	10	0	2	2
+15 mins.	**50**	0	**50**	**2**	9	**11**	0	1	1
+30 mins.	40	**2**	42	1	10	11	0	2	2
+45 mins.	33	0	33	0	5	5	0	**4**	**4**
Total Volume	153	2	155	3	34	37	0	9	9
% App. Total	98.7	1.3		8.1	91.9		0	100	
PHF	.765	.250	.775	.375	.850	.841	.000	.563	.563

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City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	29	0	29	0	10	10	0	0	0	39
07:15 AM	45	0	45	2	6	8	0	1	1	54
07:30 AM	38	0	38	0	7	7	0	0	0	45
07:45 AM	32	0	32	0	4	4	0	0	0	36
Total	144	0	144	2	27	29	0	1	1	174
08:00 AM	8	0	8	0	7	7	0	0	0	15
08:15 AM	13	0	13	0	6	6	0	0	0	19
08:30 AM	11	0	11	1	6	7	0	0	0	18
08:45 AM	12	0	12	0	2	2	0	0	0	14
Total	44	0	44	1	21	22	0	0	0	66
Grand Total	188	0	188	3	48	51	0	1	1	240
Apprch %	100	0		5.9	94.1		0	100		
Total %	78.3	0	78.3	1.2	20	21.2	0	0.4	0.4	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	29	0	29	0	**10**	**10**	0	0	0	39
07:15 AM	**45**	0	**45**	**2**	6	8	0	**1**	**1**	**54**
07:30 AM	38	0	38	0	7	7	0	0	0	45
07:45 AM	32	0	32	0	4	4	0	0	0	36
Total Volume	144	0	144	2	27	29	0	1	1	174
% App. Total	100	0		6.9	93.1		0	100		
PHF	.800	.000	.800	.250	.675	.725	.000	.250	.250	.806

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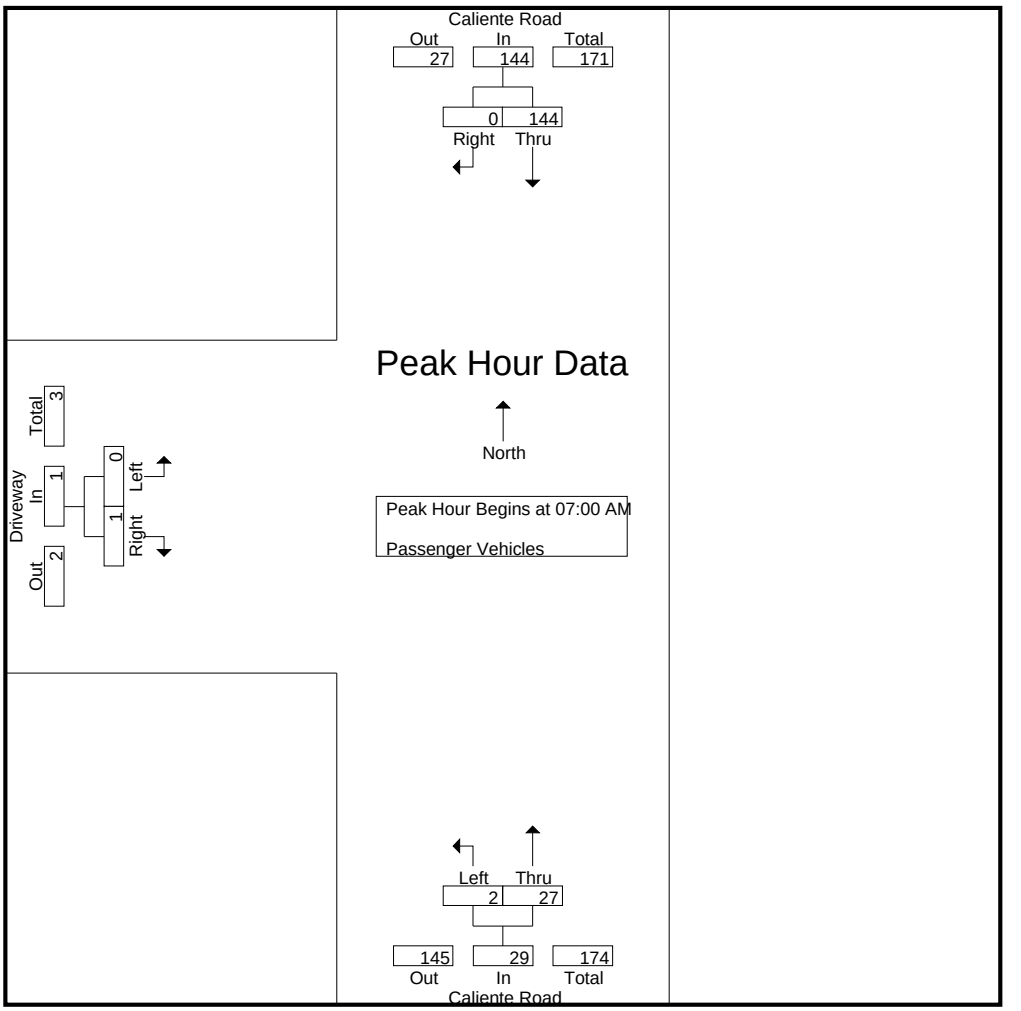
City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW AM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	29	0	29	0	**10**	**10**	0	0	0
+15 mins.	**45**	0	**45**	**2**	6	8	0	**1**	**1**
+30 mins.	38	0	38	0	7	7	0	0	0
+45 mins.	32	0	32	0	4	4	0	0	0
Total Volume	144	0	144	2	27	29	0	1	1
% App. Total	100	0		6.9	93.1		0	100	
PHF	.800	.000	.800	.250	.675	.725	.000	.250	.250

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City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW AM
Site Code : 05125030
Start Date : 2/11/2025
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Groups Printed- Large 2 Axle Vehicles

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	2	2	2
07:15 AM	4	0	4	0	2	2	0	0	0	6
07:30 AM	1	1	2	1	2	3	0	0	0	5
07:45 AM	1	0	1	0	0	0	0	2	2	3
Total	6	1	7	1	4	5	0	4	4	16
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	1	1	0	0	0	1
08:30 AM	1	0	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	1	1	0	0	0	3
Grand Total	8	1	9	1	5	6	0	4	4	19
Apprch %	88.9	11.1		16.7	83.3		0	100		
Total %	42.1	5.3	47.4	5.3	26.3	31.6	0	21.1	21.1	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	**2**	**2**	2
07:15 AM	**4**	0	**4**	0	**2**	2	0	0	0	**6**
07:30 AM	1	**1**	2	**1**	2	**3**	0	0	0	5
07:45 AM	1	0	1	0	0	0	0	2	2	3
Total Volume	6	1	7	1	4	5	0	4	4	16
% App. Total	85.7	14.3		20	80		0	100		
PHF	.375	.250	.438	.250	.500	.417	.000	.500	.500	.667

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City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW AM
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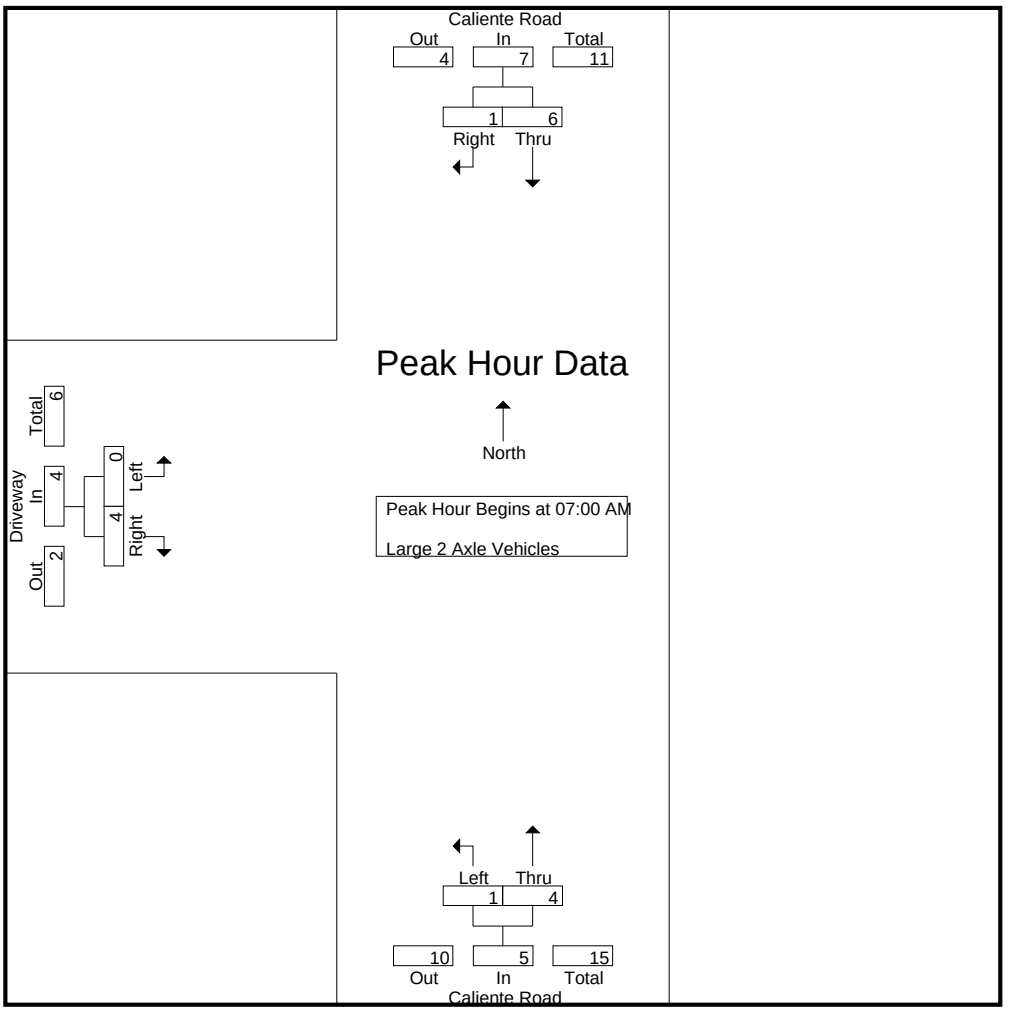

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	**2**	**2**
+15 mins.	**4**	0	**4**	0	**2**	2	0	0	0
+30 mins.	1	**1**	2	**1**	2	**3**	0	0	0
+45 mins.	1	0	1	0	0	0	0	2	2
Total Volume	6	1	7	1	4	5	0	4	4
% App. Total	85.7	14.3		20	80		0	100	
PHF	.375	.250	.438	.250	.500	.417	.000	.500	.500

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City of Hesperia
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Groups Printed- 3 Axle Vehicles

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	0	0	0	0	0	1
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	2	2	0	0	0	0	0	0	2
Total	1	2	3	0	0	0	0	1	1	4
Grand Total	3	2	5	0	0	0	0	1	1	6
Apprch %	60	40		0	0		0	100		
Total %	50	33.3	83.3	0	0	0	0	16.7	16.7	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	**1**	0	**1**	0	0	0	0	0	0	**1**
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	0	0	0	2
% App. Total	100	0		0	0		0	0		
PHF	.500	.000	.500	.000	.000	.000	.000	.000	.000	.500

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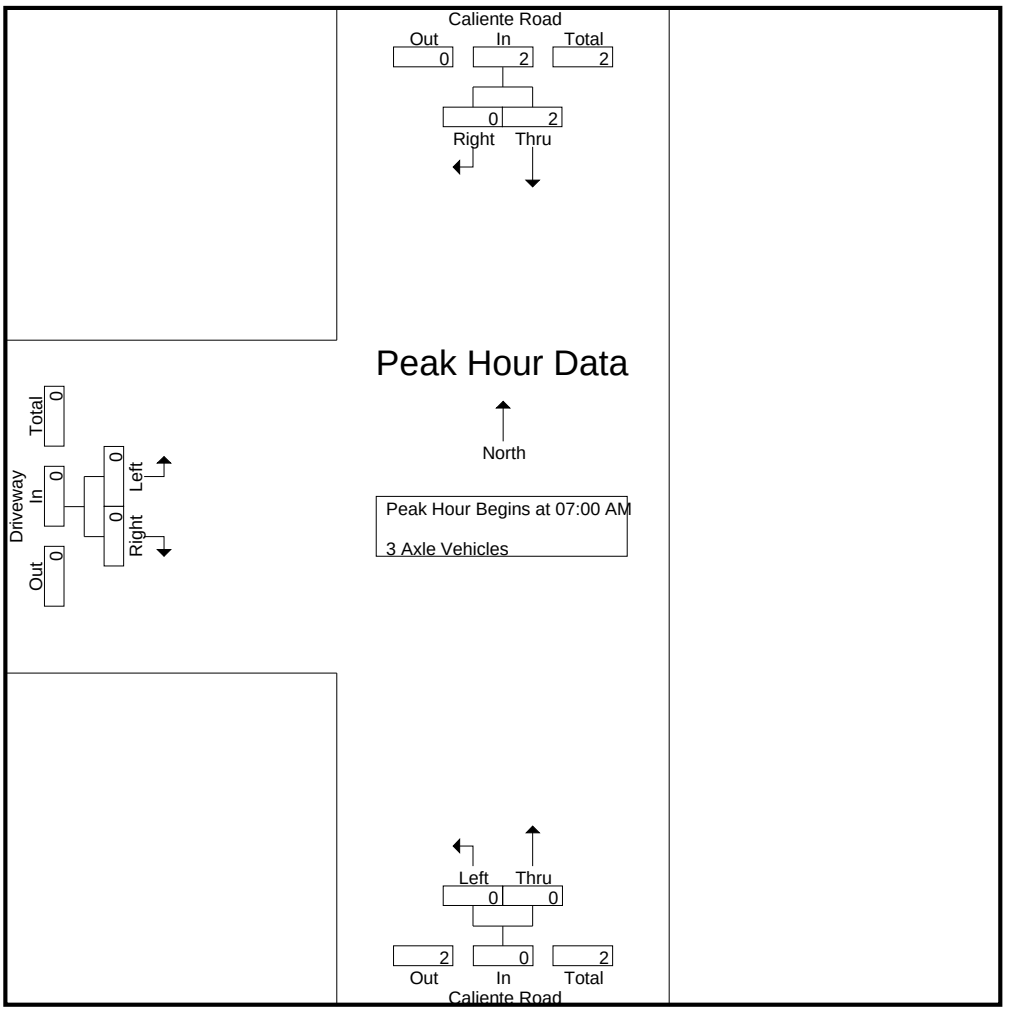

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.500	.000	.500	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	1	0	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	0	1	1	0	1	1	0	2	2	4
07:45 AM	0	0	0	0	1	1	0	2	2	3
Total	1	1	2	0	3	3	0	4	4	9
08:00 AM	0	0	0	1	1	2	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	1	1	1
08:30 AM	1	0	1	1	0	1	0	0	0	2
08:45 AM	0	0	0	1	0	1	0	0	0	1
Total	1	0	1	3	1	4	0	1	1	6
Grand Total	2	1	3	3	4	7	0	5	5	15
Apprch %	66.7	33.3		42.9	57.1		0	100		
Total %	13.3	6.7	20	20	26.7	46.7	0	33.3	33.3	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**1**	0	**1**	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	**1**	**1**	0	0	0	1
07:30 AM	0	**1**	1	0	1	1	0	**2**	**2**	**4**
07:45 AM	0	0	0	0	1	1	0	2	2	3
Total Volume	1	1	2	0	3	3	0	4	4	9
% App. Total	50	50		0	100		0	100		
PHF	.250	.250	.500	.000	.750	.750	.000	.500	.500	.563

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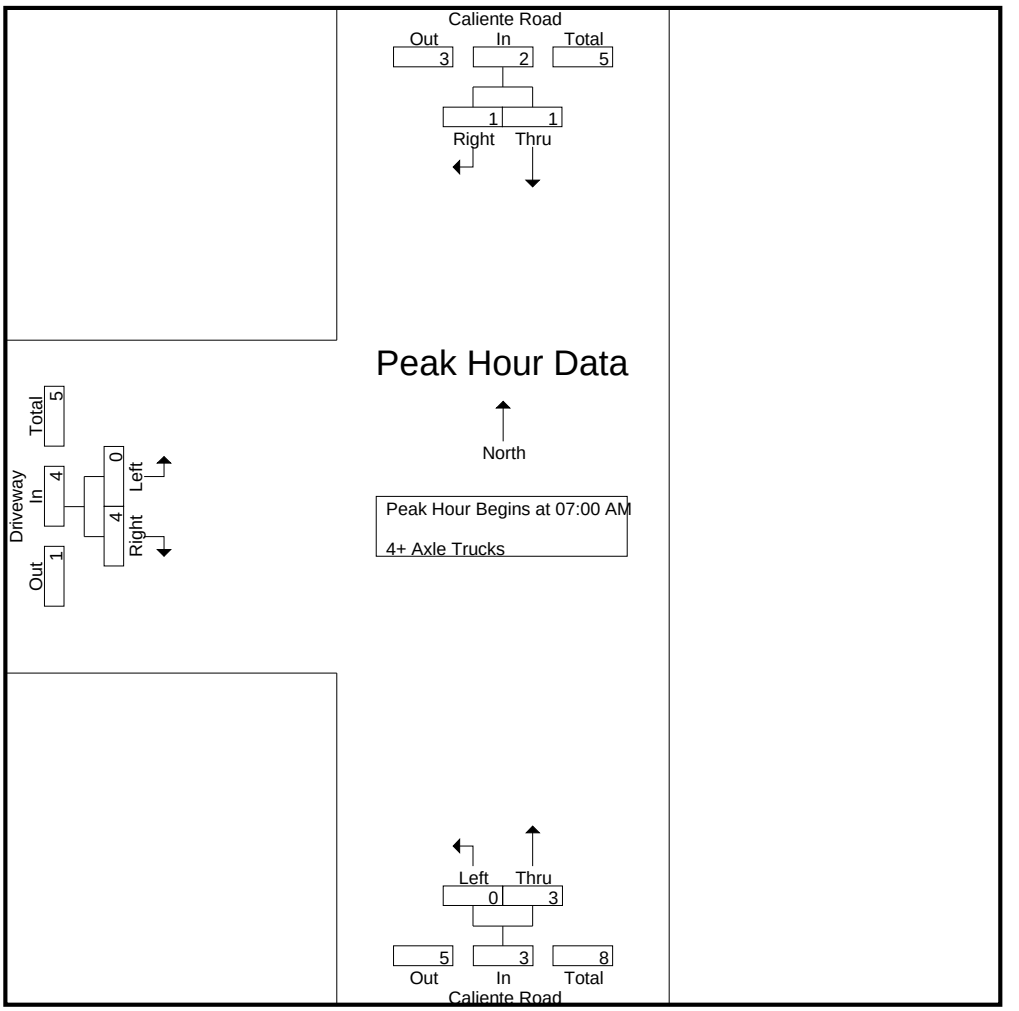

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**1**	0	**1**	0	0	0	0	0	0
+15 mins.	0	0	0	0	**1**	**1**	0	0	0
+30 mins.	0	**1**	1	0	1	1	0	**2**	**2**
+45 mins.	0	0	0	0	1	1	0	2	2
Total Volume	1	1	2	0	3	3	0	4	4
% App. Total	50	50		0	100		0	100	
PHF	.250	.250	.500	.000	.750	.750	.000	.500	.500

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	10	0	10	0	4	4	0	0	0	14
04:15 PM	5	0	5	0	13	13	0	0	0	18
04:30 PM	15	0	15	0	7	7	0	1	1	23
04:45 PM	9	0	9	0	11	11	0	2	2	22
Total	39	0	39	0	35	35	0	3	3	77
05:00 PM	9	1	10	0	7	7	1	1	2	19
05:15 PM	9	1	10	1	10	11	1	0	1	22
05:30 PM	9	0	9	0	11	11	0	0	0	20
05:45 PM	8	0	8	2	9	11	0	0	0	19
Total	35	2	37	3	37	40	2	1	3	80
Grand Total	74	2	76	3	72	75	2	4	6	157
Apprch %	97.4	2.6		4	96		33.3	66.7		
Total %	47.1	1.3	48.4	1.9	45.9	47.8	1.3	2.5	3.8	
Passenger Vehicles	67	0	67	1	69	70	1	1	2	139
% Passenger Vehicles	90.5	0	88.2	33.3	95.8	93.3	50	25	33.3	88.5
Large 2 Axle Vehicles	1	1	2	0	1	1	1	0	1	4
% Large 2 Axle Vehicles	1.4	50	2.6	0	1.4	1.3	50	0	16.7	2.5
3 Axle Vehicles	2	0	2	0	0	0	0	1	1	3
% 3 Axle Vehicles	2.7	0	2.6	0	0	0	0	25	16.7	1.9
4+ Axle Trucks	4	1	5	2	2	4	0	2	2	11
% 4+ Axle Trucks	5.4	50	6.6	66.7	2.8	5.3	0	50	33.3	7

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**15**	0	**15**	0	7	7	0	1	1	**23**
04:45 PM	9	0	9	0	**11**	**11**	0	**2**	**2**	22
05:00 PM	9	**1**	10	0	7	7	**1**	1	2	19
05:15 PM	9	1	10	**1**	10	11	1	0	1	22
Total Volume	42	2	44	1	35	36	2	4	6	86
% App. Total	95.5	4.5		2.8	97.2		33.3	66.7		
PHF	.700	.500	.733	.250	.795	.818	.500	.500	.750	.935

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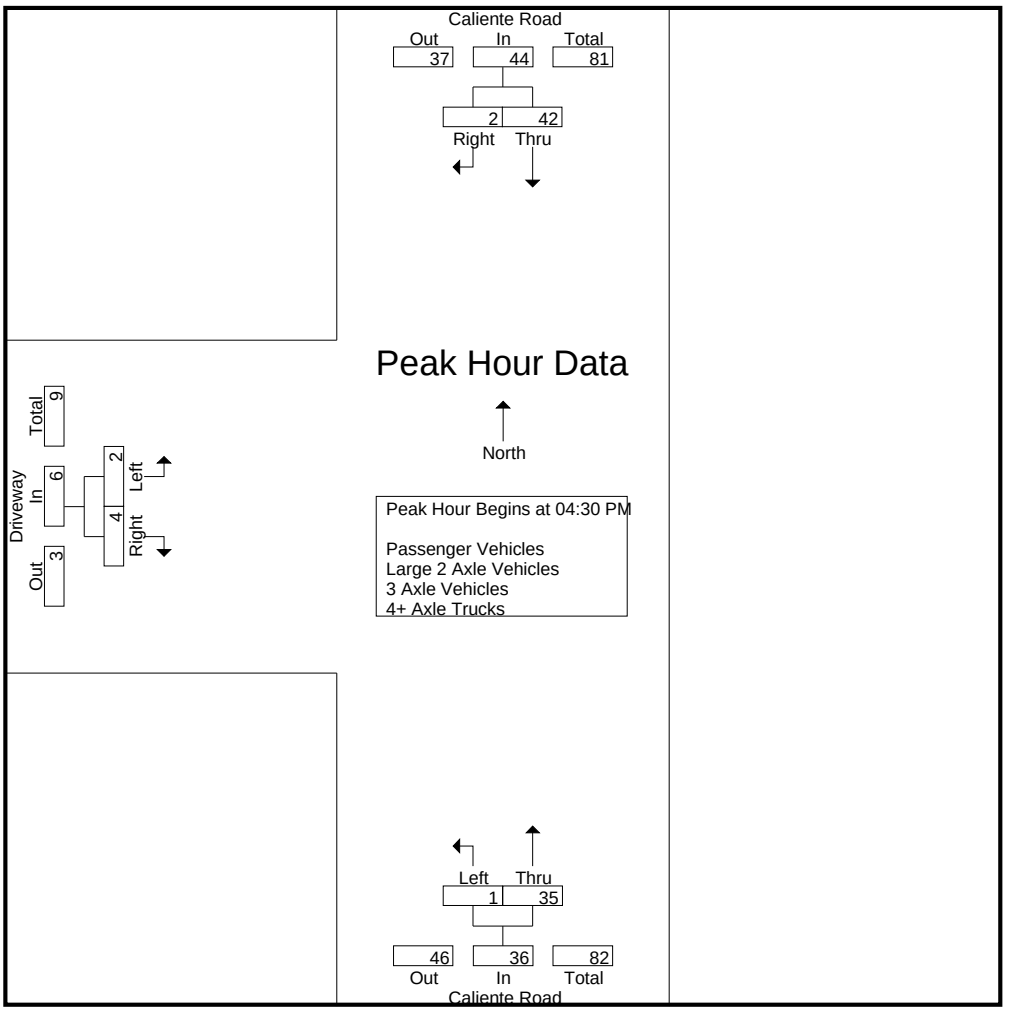

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:30 PM		
+0 mins.	**15**	0	**15**	0	**11**	**11**	0	1	1
+15 mins.	9	0	9	0	7	7	0	**2**	**2**
+30 mins.	9	**1**	10	**1**	10	11	**1**	1	2
+45 mins.	9	1	10	0	11	11	1	0	1
Total Volume	42	2	44	1	39	40	2	4	6
% App. Total	95.5	4.5		2.5	97.5		33.3	66.7	
PHF	.700	.500	.733	.250	.886	.909	.500	.500	.750

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City of Hesperia
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Groups Printed- Passenger Vehicles

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	9	0	9	0	4	4	0	0	0	13
04:15 PM	4	0	4	0	12	12	0	0	0	16
04:30 PM	14	0	14	0	6	6	0	0	0	20
04:45 PM	7	0	7	0	11	11	0	0	0	18
Total	34	0	34	0	33	33	0	0	0	67
05:00 PM	8	0	8	0	7	7	1	1	2	17
05:15 PM	8	0	8	1	9	10	0	0	0	18
05:30 PM	9	0	9	0	11	11	0	0	0	20
05:45 PM	8	0	8	0	9	9	0	0	0	17
Total	33	0	33	1	36	37	1	1	2	72
Grand Total	67	0	67	1	69	70	1	1	2	139
Apprch %	100	0		1.4	98.6		50	50		
Total %	48.2	0	48.2	0.7	49.6	50.4	0.7	0.7	1.4	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**14**	0	**14**	0	6	6	0	0	0	**20**
04:45 PM	7	0	7	0	**11**	**11**	0	0	0	18
05:00 PM	8	0	8	0	7	7	**1**	**1**	**2**	17
05:15 PM	8	0	8	**1**	9	10	0	0	0	18
Total Volume	37	0	37	1	33	34	1	1	2	73
% App. Total	100	0		2.9	97.1		50	50		
PHF	.661	.000	.661	.250	.750	.773	.250	.250	.250	.913

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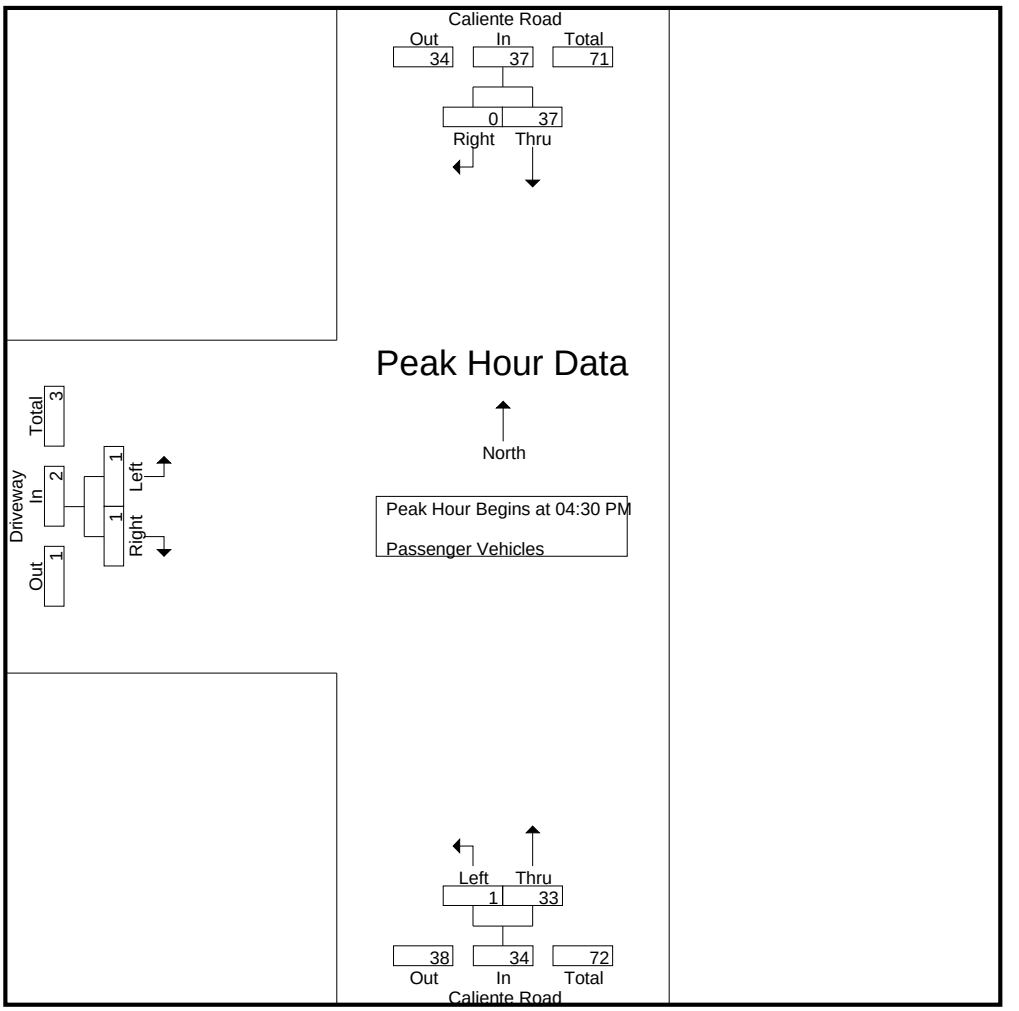

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**14**	0	**14**	0	6	6	0	0	0
+15 mins.	7	0	7	0	**11**	**11**	0	0	0
+30 mins.	8	0	8	0	7	7	**1**	**1**	**2**
+45 mins.	8	0	8	**1**	9	10	0	0	0
Total Volume	37	0	37	1	33	34	1	1	2
% App. Total	100	0		2.9	97.1		50	50	
PHF	.661	.000	.661	.250	.750	.773	.250	.250	.250

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Groups Printed- Large 2 Axle Vehicles

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	1	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	1	1	0	0	0	2
05:00 PM	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	1	0	1	2
Grand Total	1	1	2	0	1	1	1	0	1	4
Apprch %	50	50		0	100		100	0		
Total %	25	25	50	0	25	25	25	0	25	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	**1**	**1**	0	0	0	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	**1**	**1**	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	**1**	0	**1**	1
Total Volume	0	1	1	0	1	1	1	0	1	3
% App. Total	0	100		0	100		100	0		
PHF	.000	.250	.250	.000	.250	.250	.250	.000	.250	.750

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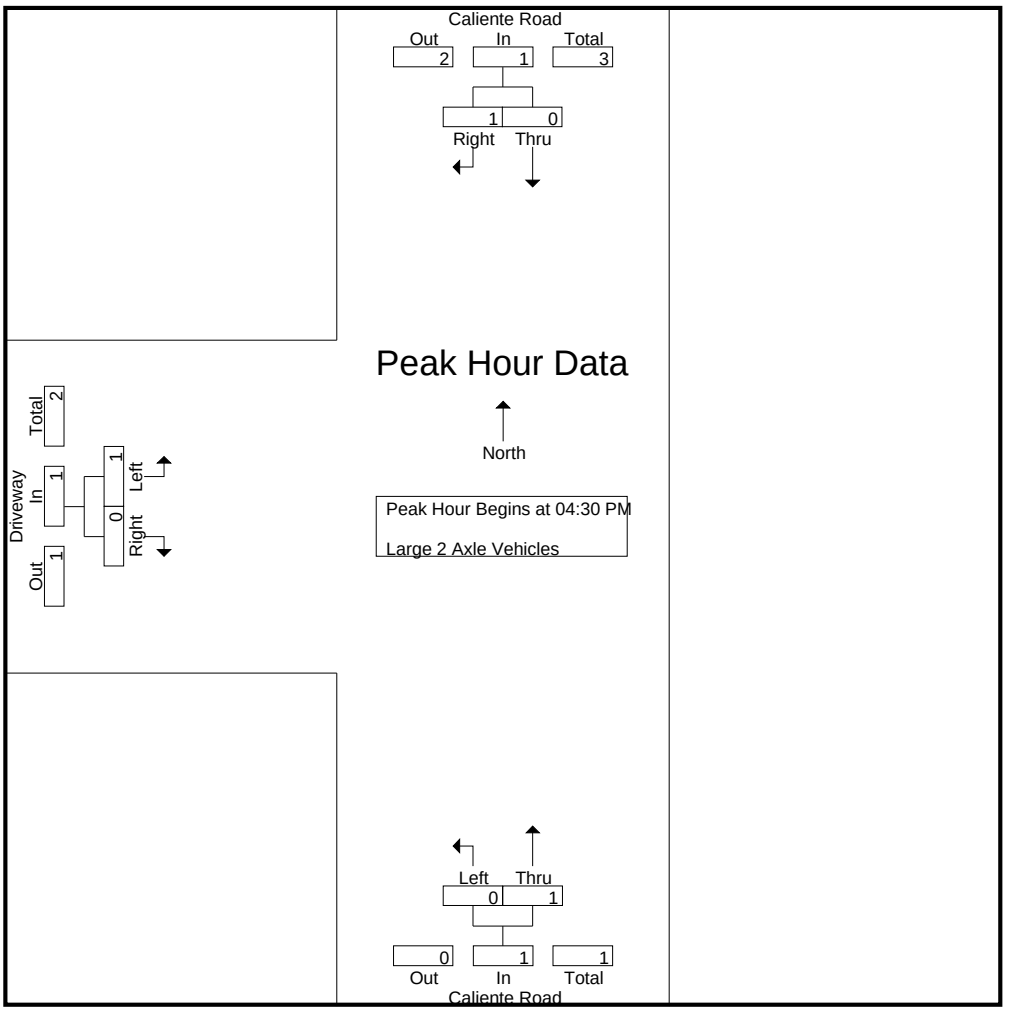

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	**1**	**1**	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**1**	0	**1**
Total Volume	0	1	1	0	1	1	1	0	1
% App. Total	0	100		0	100		100	0	
PHF	.000	.250	.250	.000	.250	.250	.250	.000	.250

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Groups Printed- 3 Axle Vehicles

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	1	0	1	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	1	1	1
Total	1	0	1	0	0	0	0	1	1	2
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
Grand Total	2	0	2	0	0	0	0	1	1	3
Apprch %	100	0		0	0		0	100		
Total %	66.7	0	66.7	0	0	0	0	33.3	33.3	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	**1**	**1**	**1**
05:00 PM	**1**	0	**1**	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	1	1	2
% App. Total	100	0		0	0		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250	.500

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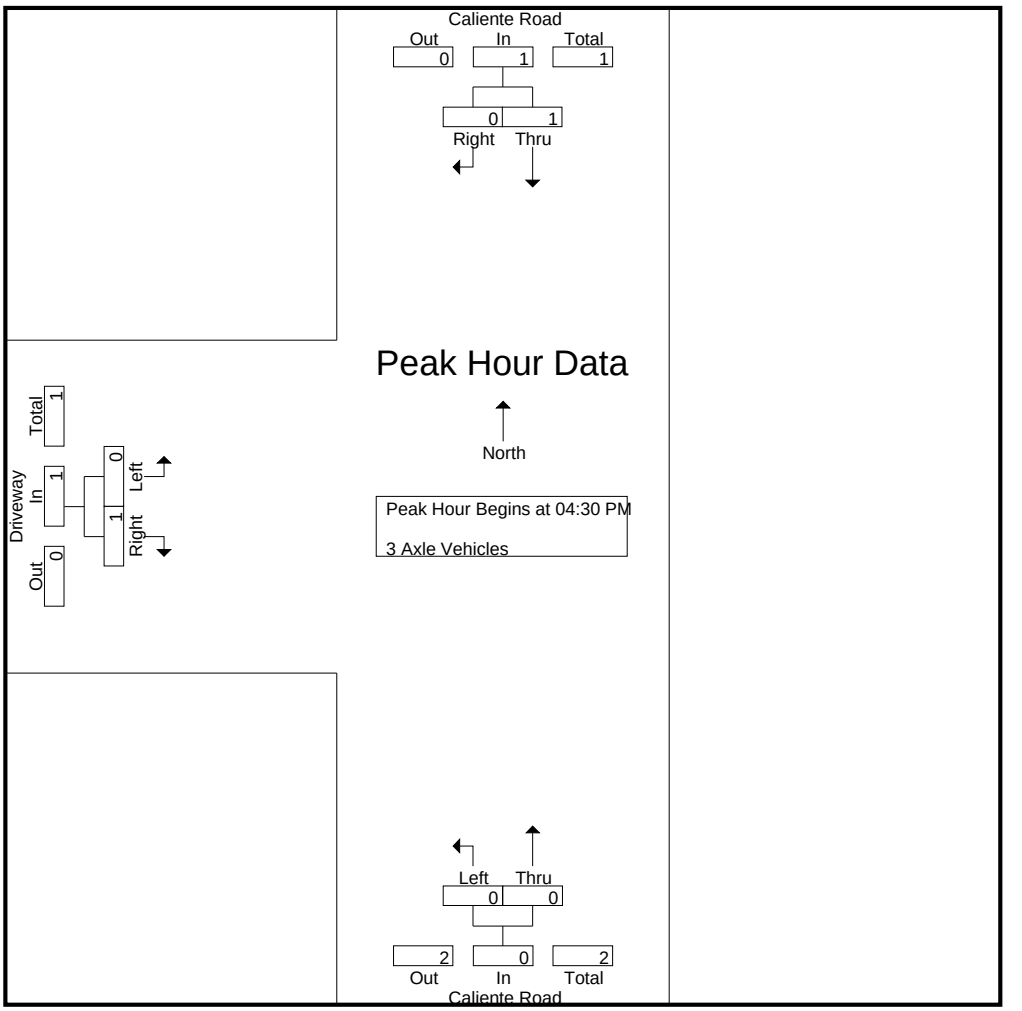
City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	**1**	**1**
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	1	1
% App. Total	100	0		0	0		0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250

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City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	1	0	0	0	1
04:30 PM	1	0	1	0	0	0	0	1	1	2
04:45 PM	2	0	2	0	0	0	0	1	1	3
Total	3	0	3	0	1	1	0	2	2	6
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	1	2	0	1	1	0	0	0	3
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	2	0	2	0	0	0	2
Total	1	1	2	2	1	3	0	0	0	5
Grand Total	4	1	5	2	2	4	0	2	2	11
Apprch %	80	20		50	50		0	100		
Total %	36.4	9.1	45.5	18.2	18.2	36.4	0	18.2	18.2	

	Caliente Road Southbound			Caliente Road Northbound			Driveway Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	1	0	1	0	0	0	0	**1**	**1**	2
04:45 PM	**2**	0	**2**	0	0	0	0	1	1	**3**
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	**1**	2	0	**1**	**1**	0	0	0	3
Total Volume	4	1	5	0	1	1	0	2	2	8
% App. Total	80	20		0	100		0	100		
PHF	.500	.250	.625	.000	.250	.250	.000	.500	.500	.667

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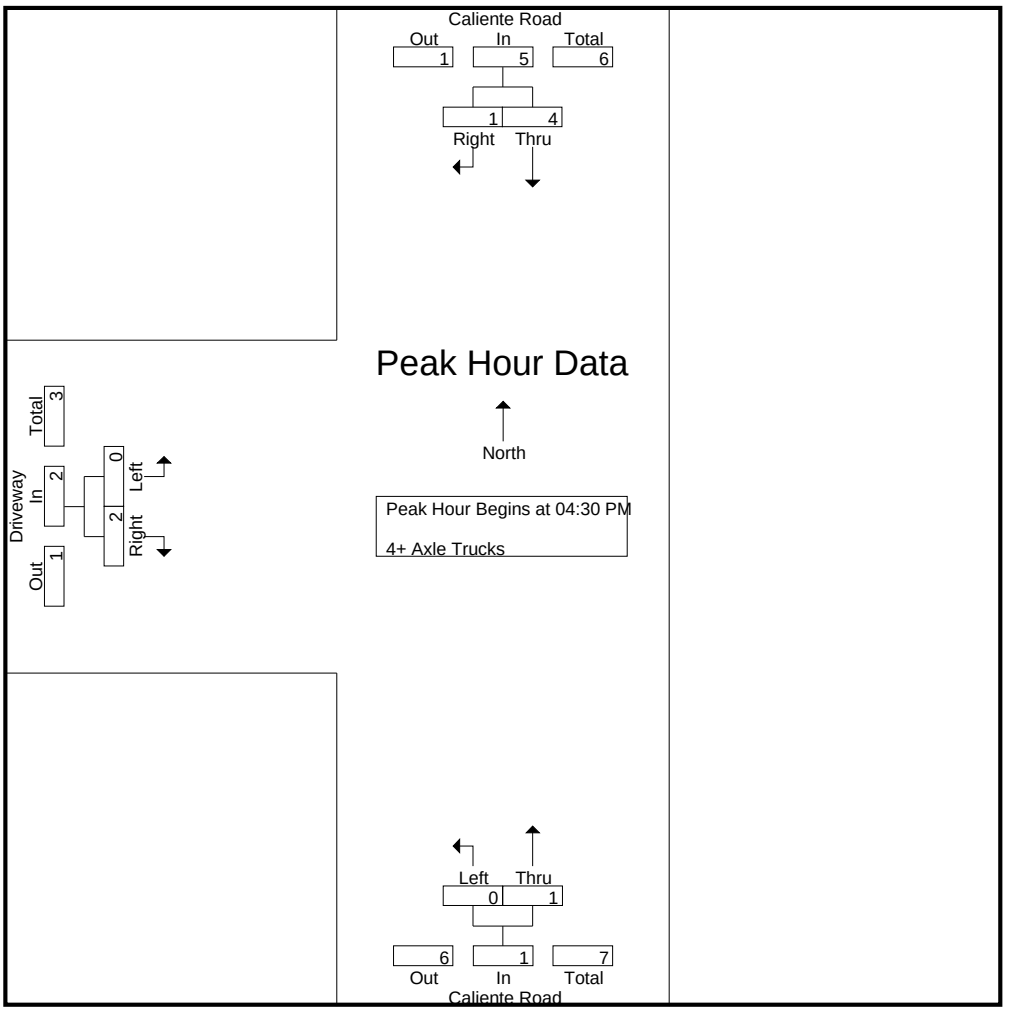
City of Hesperia
N/S: Caliente Road
E/W: Driveway
Weather: Clear

File Name : 11_HES_Cal_DW PM
Site Code : 05125030
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	0	1	0	0	0	0	**1**	**1**
+15 mins.	**2**	0	**2**	0	0	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	1	**1**	2	0	**1**	**1**	0	0	0
Total Volume	4	1	5	0	1	1	0	2	2
% App. Total	80	20		0	100		0	100	
PHF	.500	.250	.625	.000	.250	.250	.000	.500	.500

Location: Hesperia
N/S: Caliente Road
E/W: Caliente Road

Date: 2/11/2025
Day: Tuesday

PEDESTRIANS

	North Leg Caliente Road	East Leg Caliente Road	South Leg Caliente Road	West Leg Caliente Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Caliente Road	East Leg Caliente Road	South Leg Caliente Road	West Leg Caliente Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Hesperia
N/S: Caliente Road
E/W: Caliente Road

Date: 2/11/2025
Day: Tuesday

BICYCLES

	Southbound Caliente Road			Westbound Caliente Road			Northbound Caliente Road			Eastbound Caliente Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Caliente Road			Westbound Caliente Road			Northbound Caliente Road			Eastbound Caliente Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
Caliente Road
S/ Joshua Street
24 Hour Directional Classification Count

HES001
Site Code: 051-25030

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	48	2	0	1	0	0	1	1	0	1	0	0	54
01:00	0	7	0	0	2	0	0	0	1	0	0	0	0	10
02:00	0	17	2	0	2	0	0	0	1	0	0	0	0	22
03:00	0	76	23	0	1	0	0	1	**7**	0	1	0	0	109
04:00	0	85	21	0	1	0	0	1	1	0	0	0	0	109
05:00	0	133	18	1	1	0	0	1	3	0	**2**	0	0	159
06:00	0	**319**	**57**	1	0	0	0	0	5	0	0	0	0	**382**
07:00	0	202	42	**3**	3	1	0	0	3	0	0	0	0	254
08:00	0	65	14	2	1	**2**	0	4	4	0	0	0	0	92
09:00	0	41	21	0	**7**	1	0	**9**	4	0	0	0	0	83
10:00	**2**	38	18	0	1	0	0	2	4	0	0	0	0	65
11:00	0	79	25	0	5	0	0	1	4	0	0	0	0	114
12 PM	0	43	20	0	2	**1**	0	4	5	0	0	0	0	75
13:00	0	35	29	0	8	0	0	2	2	0	0	0	0	76
14:00	0	94	31	**3**	8	0	**1**	2	1	0	0	0	0	140
15:00	0	**326**	**44**	2	**11**	0	0	3	2	0	0	0	0	**388**
16:00	0	71	28	3	0	0	0	1	2	0	0	0	0	105
17:00	0	61	38	0	3	0	0	0	0	0	0	0	0	102
18:00	0	39	7	1	4	0	0	0	0	0	0	0	0	51
19:00	0	222	39	0	3	0	1	1	39	0	1	0	0	306
20:00	0	216	21	0	4	1	0	2	**59**	0	1	0	0	304
21:00	0	238	19	0	2	1	0	**5**	49	0	3	0	0	317
22:00	0	191	11	0	1	0	0	5	51	0	**7**	0	0	266
23:00	0	88	6	0	1	0	0	0	35	**1**	3	0	0	134
Total	2	2734	536	16	72	7	2	45	283	1	19	0	0	3717
Percent	0.1%	73.6%	14.4%	0.4%	1.9%	0.2%	0.1%	1.2%	7.6%	0.0%	0.5%	0.0%	0.0%	
AM Peak	10:00	06:00	06:00	07:00	09:00	08:00		09:00	03:00		05:00			06:00
Vol.	2	319	57	3	7	2		9	7		2			382
PM Peak		15:00	15:00	14:00	15:00	12:00	14:00	21:00	20:00	23:00	22:00			15:00
Vol.		326	44	3	11	1	1	5	59	1	7			388
Grand Total	2	2734	536	16	72	7	2	45	283	1	19	0	0	3717
Percent	0.1%	73.6%	14.4%	0.4%	1.9%	0.2%	0.1%	1.2%	7.6%	0.0%	0.5%	0.0%	0.0%	

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City of Hesperia
Joshua Street
B/ United States 395 - Outpost Road
24 Hour Directional Classification Count

HES003
Site Code: 051-25030

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	88	9	0	2	0	0	2	20	0	4	0	0	125
01:00	0	35	8	0	5	0	0	3	22	0	8	0	0	81
02:00	0	66	9	0	3	0	0	4	13	0	9	0	0	104
03:00	**1**	116	32	0	0	0	0	4	22	0	**11**	0	0	186
04:00	0	156	42	0	3	0	0	1	27	0	6	0	0	235
05:00	0	123	50	0	3	0	0	2	27	0	3	0	0	208
06:00	0	**228**	63	0	4	1	0	5	39	0	4	0	0	344
07:00	0	211	**87**	0	6	**7**	0	4	37	1	3	0	0	**356**
08:00	0	146	63	**3**	10	4	0	**9**	42	0	4	0	0	281
09:00	0	149	71	2	11	2	0	6	43	0	0	0	0	284
10:00	0	124	76	0	**12**	1	0	5	**46**	**2**	2	0	0	268
11:00	0	180	66	0	6	2	0	5	41	0	4	0	0	304
12 PM	**2**	163	74	0	5	1	0	6	53	0	2	0	0	306
13:00	2	161	74	0	14	2	0	4	58	**2**	4	0	0	321
14:00	1	240	82	**3**	**16**	**4**	0	3	53	0	4	0	0	406
15:00	0	**397**	97	1	7	3	0	6	**60**	0	**5**	**1**	0	**577**
16:00	0	249	**104**	1	4	1	0	**8**	55	0	2	0	0	424
17:00	0	238	79	0	5	0	0	2	48	0	3	0	0	375
18:00	0	174	42	1	4	0	0	2	40	0	3	0	0	266
19:00	0	200	50	0	6	0	0	0	34	0	3	0	0	293
20:00	0	132	39	0	4	0	0	0	43	0	1	0	0	219
21:00	0	187	24	0	9	0	0	2	40	0	4	1	0	267
22:00	0	154	29	0	3	0	0	1	32	0	2	0	0	221
23:00	0	75	15	0	0	0	0	3	35	0	3	0	0	131
Total	6	3992	1285	11	142	28	0	87	930	5	94	2	0	6582
Percent	0.1%	60.7%	19.5%	0.2%	2.2%	0.4%	0.0%	1.3%	14.1%	0.1%	1.4%	0.0%	0.0%	
AM Peak	03:00	06:00	07:00	08:00	10:00	07:00		08:00	10:00	10:00	03:00			07:00
Vol.	1	228	87	3	12	7		9	46	2	11			356
PM Peak	12:00	15:00	16:00	14:00	14:00	14:00		16:00	15:00	13:00	15:00	15:00		15:00
Vol.	2	397	104	3	16	4		8	60	2	5	1		577
Grand Total	6	3992	1285	11	142	28	0	87	930	5	94	2	0	6582
Percent	0.1%	60.7%	19.5%	0.2%	2.2%	0.4%	0.0%	1.3%	14.1%	0.1%	1.4%	0.0%	0.0%	

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City of Hesperia
Joshua Street
E/ Caliente Road
24 Hour Directional Classification Count

HES002
Site Code: 051-25030

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	48	0	0	1	0	0	1	1	0	1	0	0	52
01:00	0	9	0	0	2	0	0	0	1	0	0	0	0	12
02:00	0	17	1	0	2	0	0	0	1	0	0	0	0	21
03:00	0	73	22	0	1	0	0	1	**7**	0	1	0	0	105
04:00	0	81	22	0	1	0	0	1	1	0	0	0	0	106
05:00	0	137	17	1	1	0	0	1	3	0	**2**	0	0	162
06:00	0	**323**	**63**	1	0	0	0	0	5	0	0	0	0	**392**
07:00	0	208	43	**3**	3	1	0	0	6	0	0	0	0	264
08:00	0	63	16	2	1	**3**	0	4	7	0	0	0	0	96
09:00	0	43	24	0	**8**	1	0	**9**	4	0	0	0	0	89
10:00	**2**	39	22	0	1	0	0	2	6	0	0	0	0	72
11:00	0	78	28	0	5	0	0	1	4	0	0	0	0	116
12 PM	0	52	23	0	1	**1**	0	4	6	0	0	0	0	87
13:00	0	39	26	0	8	0	0	2	4	0	0	0	0	79
14:00	0	93	35	**3**	4	0	**1**	2	2	0	0	0	0	140
15:00	0	**328**	**49**	2	**13**	0	0	3	1	0	0	0	0	**396**
16:00	0	84	33	3	0	0	0	1	2	0	0	0	0	123
17:00	0	90	43	0	3	0	0	0	1	0	0	0	0	137
18:00	0	44	8	1	4	0	0	0	0	0	0	0	0	57
19:00	0	219	39	0	3	0	1	1	39	0	1	0	0	303
20:00	0	215	23	0	4	1	0	2	**59**	0	1	0	0	305
21:00	0	236	20	0	2	1	0	**5**	49	0	3	0	0	316
22:00	0	192	10	0	1	0	0	5	51	0	**7**	0	0	266
23:00	0	91	6	0	1	0	0	0	35	**1**	3	0	0	137
Total	2	2802	573	16	70	8	2	45	295	1	19	0	0	3833
Percent	0.1%	73.1%	14.9%	0.4%	1.8%	0.2%	0.1%	1.2%	7.7%	0.0%	0.5%	0.0%	0.0%	
AM Peak	10:00	06:00	06:00	07:00	09:00	08:00		09:00	03:00		05:00			06:00
Vol.	2	323	63	3	8	3		9	7		2			392
PM Peak		15:00	15:00	14:00	15:00	12:00	14:00	21:00	20:00	23:00	22:00			15:00
Vol.		328	49	3	13	1	1	5	59	1	7			396
Grand Total	2	2802	573	16	70	8	2	45	295	1	19	0	0	3833
Percent	0.1%	73.1%	14.9%	0.4%	1.8%	0.2%	0.1%	1.2%	7.7%	0.0%	0.5%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Hesperia
United States 395
N/ Joshua Street
24 Hour Directional Classification Count

HES004
Site Code: 051-25030

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	148	11	0	4	0	0	5	63	0	7	0	0	238
01:00	0	114	15	0	7	0	0	8	61	0	14	0	0	219
02:00	0	234	34	0	3	0	0	3	38	0	17	0	0	329
03:00	0	488	112	0	4	1	0	7	62	0	**25**	0	0	699
04:00	2	958	270	0	9	5	0	10	100	1	18	0	0	1373
05:00	2	915	237	3	21	3	0	11	129	0	15	**1**	0	1337
06:00	**3**	**1061**	**292**	3	19	7	0	14	132	1	14	1	0	**1547**
07:00	2	977	264	4	20	**21**	0	14	157	**2**	8	1	0	1470
08:00	2	797	237	**7**	19	2	0	18	145	0	15	0	0	1242
09:00	3	677	249	2	29	4	0	18	174	1	7	0	0	1164
10:00	2	642	207	1	28	14	0	**23**	155	2	9	0	0	1083
11:00	1	682	231	6	**30**	11	**1**	14	**183**	2	13	0	0	1174
12 PM	2	802	213	2	24	**9**	**2**	11	**202**	2	13	0	0	1282
13:00	2	927	293	0	**29**	2	0	19	189	**3**	24	**3**	0	1491
14:00	**4**	991	310	**7**	25	4	1	11	157	1	12	1	0	1524
15:00	4	**1210**	**354**	7	26	6	0	16	180	1	13	2	0	**1819**
16:00	0	1181	352	5	22	4	0	**21**	165	1	16	2	0	1769
17:00	1	1098	303	1	16	2	1	16	150	0	23	1	0	1612
18:00	0	997	196	2	14	2	0	8	129	0	22	0	0	1370
19:00	0	924	172	0	10	1	0	7	125	0	12	0	0	1251
20:00	0	741	96	0	9	0	0	6	142	0	12	0	0	1006
21:00	0	543	67	1	6	0	0	10	102	0	14	1	0	744
22:00	1	525	60	0	4	1	0	9	117	0	**29**	0	0	746
23:00	1	353	36	0	2	1	0	3	91	0	14	0	0	501
Total	32	17985	4611	51	380	100	5	282	3148	17	366	13	0	26990
Percent	0.1%	66.6%	17.1%	0.2%	1.4%	0.4%	0.0%	1.0%	11.7%	0.1%	1.4%	0.0%	0.0%	
AM Peak	06:00	06:00	06:00	08:00	11:00	07:00	11:00	10:00	11:00	07:00	03:00	05:00		06:00
Vol.	3	1061	292	7	30	21	1	23	183	2	25	1		1547
PM Peak	14:00	15:00	15:00	14:00	13:00	12:00	12:00	16:00	12:00	13:00	22:00	13:00		15:00
Vol.	4	1210	354	7	29	9	2	21	202	3	29	3		1819
Grand Total	32	17985	4611	51	380	100	5	282	3148	17	366	13	0	26990
Percent	0.1%	66.6%	17.1%	0.2%	1.4%	0.4%	0.0%	1.0%	11.7%	0.1%	1.4%	0.0%	0.0%	

APPENDIX 4:

EXISTING (2025) INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	218	13	3	40	15	9
Future Vol, veh/h	218	13	3	40	15	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	269	16	4	49	19	11

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	71	28	0	0	53	0
Stage 1	28	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	935	1052	-	-	1565	-
Stage 1	999	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	924	1052	-	-	1565	-
Mov Cap-2 Maneuver	869	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	969	-	-	-	-	-

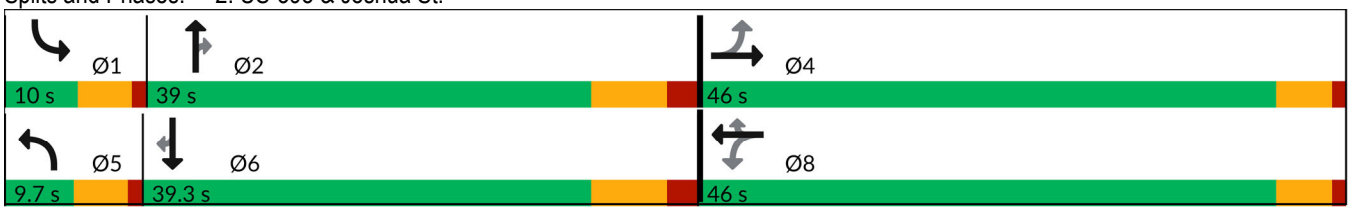
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.07	0	4.59
HCM LOS	B		

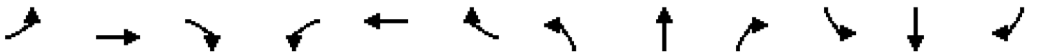
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	877	1565	-
HCM Lane V/C Ratio	-	-	0.325	0.012	-
HCM Ctrl Dly (s/v)	-	-	11.1	7.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	35	25	77	72	186	10	679	57	142	770	196
Future Volume (vph)	35	25	77	72	186	10	679	57	142	770	196
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	11.8	11.8	12.2	12.2	12.2	5.4	22.1	22.1	5.7	31.7	31.7
Actuated g/C Ratio	0.20	0.20	0.21	0.21	0.21	0.09	0.38	0.38	0.10	0.54	0.54
v/c Ratio	0.16	0.12	0.33	0.21	0.43	0.07	0.58	0.10	0.99	0.46	0.23
Control Delay (s/veh)	19.7	13.8	22.6	19.8	6.6	34.6	18.3	4.4	106.0	12.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.7	13.8	22.6	19.8	6.6	34.6	18.3	4.4	106.0	12.9	3.5
LOS	B	B	C	B	A	C	B	A	F	B	A
Approach Delay (s/veh)		16.6		13.1			17.4			23.2	
Approach LOS		B		B			B			C	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 58.6	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay (s/veh): 19.6	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	25	14	77	72	186	10	679	57	142	770	196
Future Volume (veh/h)	35	25	14	77	72	186	10	679	57	142	770	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	38	27	11	85	79	150	11	746	50	156	846	184
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	267	176	72	315	261	221	23	1325	591	178	1653	737
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.01	0.39	0.39	0.11	0.48	0.48
Sat Flow, veh/h	1105	1216	495	1314	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	38	0	38	85	79	150	11	746	50	156	846	184
Grp Sat Flow(s),veh/h/ln	1105	0	1711	1314	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	1.5	0.0	0.9	2.9	1.9	4.5	0.3	8.2	1.0	4.6	8.2	3.4
Cycle Q Clear(g_c), s	3.4	0.0	0.9	3.8	1.9	4.5	0.3	8.2	1.0	4.6	8.2	3.4
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	0	248	315	261	221	23	1325	591	178	1653	737
V/C Ratio(X)	0.14	0.00	0.15	0.27	0.30	0.68	0.48	0.56	0.08	0.88	0.51	0.25
Avail Cap(c_a), veh/h	1047	0	1457	1243	1533	1299	168	2237	998	178	2259	1007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	18.0	19.7	18.4	19.5	23.6	11.5	9.3	21.1	8.5	7.3
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.2	1.4	11.0	0.8	0.1	34.7	0.5	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	0.8	0.7	1.4	0.2	2.1	0.2	3.1	1.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.0	0.0	18.1	19.8	18.6	20.9	34.5	12.4	9.5	55.8	9.1	7.7
LnGrp LOS	C		B	B	B	C	C	B	A	E	A	A
Approach Vol, veh/h		76			314			807			1186	
Approach Delay, s/veh		19.1			20.0			12.5			15.0	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	26.2		12.0	5.4	30.8		12.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	6.6	10.2		5.4	2.3	10.2		6.5				
Green Ext Time (p_c), s	0.0	8.4		0.2	0.0	10.7		0.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.9
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	156	0	0	232	69	0	0	0	27	0	100
Future Vol, veh/h	68	156	0	0	232	69	0	0	0	27	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	78	179	0	0	267	79	0	0	0	31	0	115

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	346	0	-	-	-	0			642	-	306
Stage 1	-	-	-	-	-	-			306	-	-
Stage 2	-	-	-	-	-	-			336	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	1224	-	0	0	-	-			442	0	738
Stage 1	-	-	0	0	-	-			751	0	-
Stage 2	-	-	0	0	-	-			729	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1224	-	-	-	-	-			413	0	738
Mov Cap-2 Maneuver	-	-	-	-	-	-			515	0	-
Stage 1	-	-	-	-	-	-			703	0	-
Stage 2	-	-	-	-	-	-			729	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.47	0	11.13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1224	-	-	-	515	738
HCM Lane V/C Ratio	0.064	-	-	-	0.06	0.156
HCM Ctrl Dly (s/v)	8.1	-	-	-	12.4	10.8
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.5

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	121	58	77	215	54
Future Vol, veh/h	31	121	58	77	215	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	39	151	73	96	269	68

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	544	303	336	0	-	0
Stage 1	303	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	504	742	1234	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	472	742	1234	-	-	-
Mov Cap-2 Maneuver	472	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.57	3.48	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	773	-	665	-	-
HCM Lane V/C Ratio	0.059	-	0.286	-	-
HCM Ctrl Dly (s/v)	8.1	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	417	428	27	0	0	0	0	11	36	6
Future Vol, veh/h	0	11	417	428	27	0	0	0	0	11	36	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	448	460	29	0	0	0	0	12	39	6

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	460	0	0			961	1410	29
Stage 1	-	-	-	-	-	-			949	949	-
Stage 2	-	-	-	-	-	-			12	460	-
Critical Hdwy	-	-	-	4.1	-	-			6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-			3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1111	-	0			287	140	1052
Stage 1	0	-	-	-	-	0			379	342	-
Stage 2	0	-	-	-	-	0			1016	569	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1111	-	-			166	0	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-			166	0	-
Stage 1	-	-	-	-	-	-			379	0	-
Stage 2	-	-	-	-	-	-			589	0	-

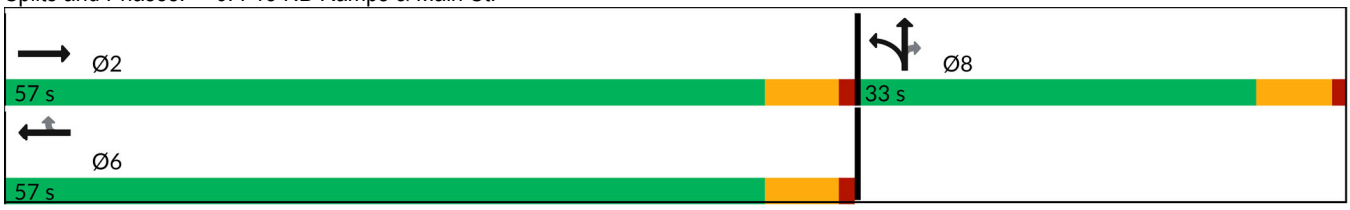
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	9.88	32.8
HCM LOS			D

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1094	-	166	1052
HCM Lane V/C Ratio	-	-	0.414	-	0.304	0.006
HCM Ctrl Dly (s/v)	-	-	10.5	0	35.9	8.4
HCM Lane LOS	-	-	B	A	E	A
HCM 95th %tile Q(veh)	-	-	2.1	-	1.2	0

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	1028	1089	602	78	2	398
Future Volume (vph)	1028	1089	602	78	2	398
Turn Type	NA	NA	Perm	Split	NA	Perm
Protected Phases	2	6		8	8	
Permitted Phases			6			8
Detector Phase	2	6	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	57.0	57.0	57.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	26.6	26.6	26.6	12.8	12.8	12.8
Actuated g/C Ratio	0.51	0.51	0.51	0.25	0.25	0.25
v/c Ratio	0.58	0.46	0.59	0.21	0.51	0.50
Control Delay (s/veh)	8.7	8.6	3.2	19.7	17.0	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.7	8.6	3.2	19.7	17.0	16.8
LOS	A	A	A	B	B	B
Approach Delay (s/veh)	8.7	6.7			17.4	
Approach LOS	A	A			B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 52	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay (s/veh): 8.9	Intersection LOS: A
Intersection Capacity Utilization 58.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1028	322	0	1089	602	78	2	398	0	0	0
Future Volume (veh/h)	0	1028	322	0	1089	602	78	2	398	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1094	321	0	1159	613	83	0	382			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2157	633	0	2811	873	315	0	594			
Arrive On Green	0.00	0.57	0.57	0.00	0.57	0.57	0.19	0.00	0.19			
Sat Flow, veh/h	0	3933	1106	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	950	465	0	1159	613	83	0	382			
Grp Sat Flow(s),veh/h/ln	0	1638	1601	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	9.0	9.0	0.0	6.8	14.8	2.2	0.0	5.9			
Cycle Q Clear(g_c), s	0.0	9.0	9.0	0.0	6.8	14.8	2.2	0.0	5.9			
Prop In Lane	0.00		0.69	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1874	916	0	2811	873	315	0	594			
V/C Ratio(X)	0.00	0.51	0.51	0.00	0.41	0.70	0.26	0.00	0.64			
Avail Cap(c_a), veh/h	0	3250	1588	0	4876	1514	850	0	1603			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	6.6	6.6	0.0	6.2	7.9	17.6	0.0	19.1			
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.0	0.1	1.0	0.4	0.0	1.2			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.6	1.6	0.0	1.2	2.6	0.7	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	6.8	7.1	0.0	6.3	8.9	18.0	0.0	20.2			
LnGrp LOS		A	A		A	A	B		C			
Approach Vol, veh/h		1415			1772			465				
Approach Delay, s/veh		6.9			7.2			19.8				
Approach LOS		A			A			B				

Timer - Assigned Phs	2			6		8		
Phs Duration (G+Y+Rc), s	35.4			35.4		16.0		
Change Period (Y+Rc), s	6.0			6.0		6.0		
Max Green Setting (Gmax), s	51.0			51.0		27.0		
Max Q Clear Time (g_c+I1), s	11.0			16.8		7.9		
Green Ext Time (p_c), s	11.5			12.6		1.6		

Intersection Summary	
HCM 7th Control Delay, s/veh	8.7
HCM 7th LOS	A

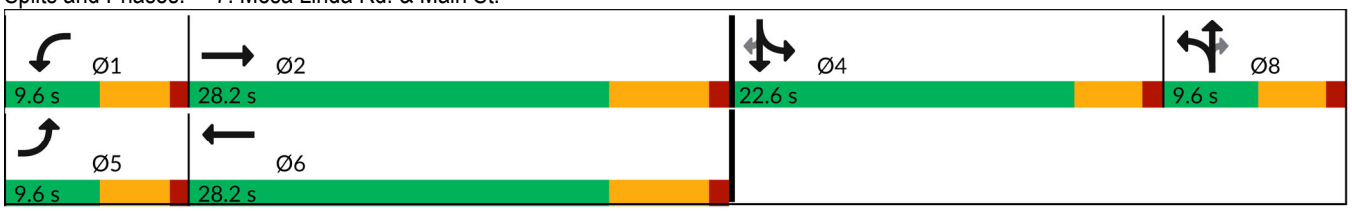
Notes

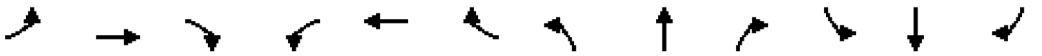
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	13	911	53	605	1	44	0	13
Future Volume (vph)	13	911	53	605	1	44	0	13
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.5	17.2	5.5	20.3	5.5	5.5	11.0	11.0
Actuated g/C Ratio	0.11	0.35	0.11	0.41	0.11	0.11	0.22	0.22
v/c Ratio	0.08	0.58	0.32	0.33	0.03	0.14	0.10	0.03
Control Delay (s/veh)	27.4	15.8	31.3	10.8	26.6	0.8	22.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.4	15.8	31.3	10.8	26.6	0.8	22.5	0.1
LOS	C	B	C	B	C	A	C	A
Approach Delay (s/veh)		15.9		12.4	3.3		16.6	
Approach LOS		B		B	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 49.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay (s/veh): 14.2	Intersection LOS: B
Intersection Capacity Utilization 44.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	911	7	53	605	21	4	1	44	36	0	13
Future Volume (veh/h)	13	911	7	53	605	21	4	1	44	36	0	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	980	8	57	651	23	4	1	31	39	0	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	29	1508	12	89	1643	58	55	14	60	346	0	308
Arrive On Green	0.02	0.30	0.30	0.05	0.34	0.34	0.04	0.04	0.04	0.20	0.00	0.20
Sat Flow, veh/h	1619	5028	41	1619	4874	172	1385	346	1525	1714	0	1525
Grp Volume(v), veh/h	14	638	350	57	437	237	5	0	31	39	0	10
Grp Sat Flow(s),veh/h/ln	1619	1638	1793	1619	1638	1769	1731	0	1525	1714	0	1525
Q Serve(g_s), s	0.4	8.4	8.4	1.7	5.1	5.1	0.1	0.0	1.0	0.9	0.0	0.3
Cycle Q Clear(g_c), s	0.4	8.4	8.4	1.7	5.1	5.1	0.1	0.0	1.0	0.9	0.0	0.3
Prop In Lane	1.00		0.02	1.00		0.10	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	29	982	538	89	1104	596	68	0	60	346	0	308
V/C Ratio(X)	0.49	0.65	0.65	0.64	0.40	0.40	0.07	0.00	0.52	0.11	0.00	0.03
Avail Cap(c_a), veh/h	163	1455	796	163	1455	786	175	0	154	623	0	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	15.1	15.1	22.9	12.6	12.6	22.9	0.0	23.3	16.1	0.0	15.9
Incr Delay (d2), s/veh	4.7	0.7	1.3	2.9	0.2	0.4	0.2	0.0	2.5	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	2.7	0.6	1.4	1.5	0.0	0.0	0.3	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.8	15.8	16.4	25.8	12.8	13.0	23.1	0.0	25.8	16.3	0.0	15.9
LnGrp LOS	C	B	B	C	B	B	C		C	B		B
Approach Vol, veh/h		1002			731			36			49	
Approach Delay, s/veh		16.2			13.9			25.5			16.2	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	21.0		14.6	5.5	22.9		6.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	3.7	10.4		2.9	2.4	7.1		3.0				
Green Ext Time (p_c), s	0.0	4.4		0.1	0.0	3.3		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	15.4	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	30	81	8	34	53
Future Vol, veh/h	12	30	81	8	34	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	36	96	10	40	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	50	0	217	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	202	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1570	-	776	1071
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	836	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1570	-	728	1071
Mov Cap-2 Maneuver	-	-	-	-	708	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6.77	9.56
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	892	-	-	1570	-
HCM Lane V/C Ratio	0.116	-	-	0.061	-
HCM Ctrl Dly (s/v)	9.6	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	4	42	160	5
Future Vol, veh/h	0	19	4	42	160	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	23	5	52	198	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	259	198	204	0	-	0
Stage 1	198	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	734	849	1380	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	731	849	1380	-	-	-
Mov Cap-2 Maneuver	734	-	-	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.36	0.66	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1380	-	849	-	-
HCM Lane V/C Ratio	0.004	-	0.028	-	-
HCM Ctrl Dly (s/v)	7.6	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	21	11	67	28	3
Future Vol, veh/h	26	21	11	67	28	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	46	37	19	118	49	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	179	78	0	0	137	0
Stage 1	78	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	807	988	-	-	1460	-
Stage 1	950	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	780	988	-	-	1460	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	887	-	-	-	-	-

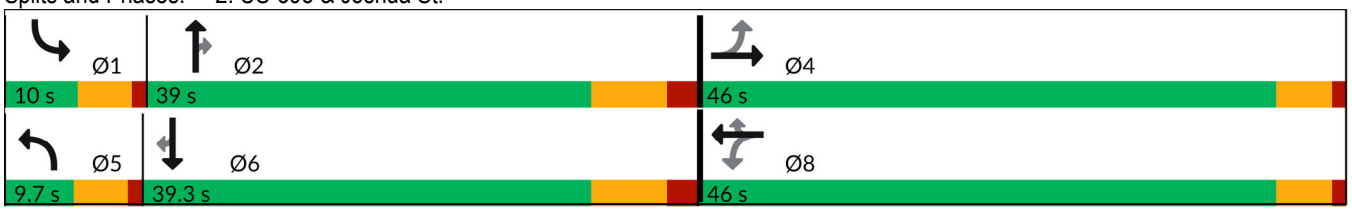
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.66	0	6.82
HCM LOS	A		

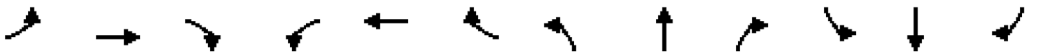
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	856	1460	-
HCM Lane V/C Ratio	-	-	0.096	0.034	-
HCM Ctrl Dly (s/v)	-	-	9.7	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	47	48	72	18	221	19	1015	112	134	828	41
Future Volume (vph)	47	48	72	18	221	19	1015	112	134	828	41
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	12.4	12.4	12.4	12.4	12.4	5.2	30.6	30.6	5.5	39.6	39.6
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.08	0.46	0.46	0.08	0.60	0.60
v/c Ratio	0.21	0.17	0.33	0.06	0.56	0.16	0.68	0.15	1.05	0.43	0.05
Control Delay (s/veh)	23.1	20.3	25.9	20.1	13.2	38.0	19.6	4.6	130.3	12.1	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.1	20.3	25.9	20.1	13.2	38.0	19.6	4.6	130.3	12.1	1.8
LOS	C	C	C	C	B	D	B	A	F	B	A
Approach Delay (s/veh)		21.6		16.6			18.4			27.4	
Approach LOS		C		B			B			C	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 66.4	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay (s/veh): 21.9	Intersection LOS: C
Intersection Capacity Utilization 63.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	48	5	72	18	221	19	1015	112	134	828	41
Future Volume (veh/h)	47	48	5	72	18	221	19	1015	112	134	828	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	49	51	3	76	19	201	20	1068	90	141	872	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	300	282	17	306	302	256	38	1534	684	146	1762	786
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.02	0.45	0.45	0.09	0.52	0.52
Sat Flow, veh/h	1114	1683	99	1295	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	49	0	54	76	19	201	20	1068	90	141	872	32
Grp Sat Flow(s),veh/h/ln	1114	0	1782	1295	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	2.3	0.0	1.5	3.1	0.5	7.4	0.7	14.7	2.0	5.1	9.7	0.6
Cycle Q Clear(g_c), s	2.8	0.0	1.5	4.7	0.5	7.4	0.7	14.7	2.0	5.1	9.7	0.6
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	299	306	302	256	38	1534	684	146	1762	786
V/C Ratio(X)	0.16	0.00	0.18	0.25	0.06	0.79	0.52	0.70	0.13	0.96	0.49	0.04
Avail Cap(c_a), veh/h	892	0	1247	995	1259	1067	138	1838	820	146	1856	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	20.9	22.9	20.5	23.4	28.3	13.0	9.5	26.6	9.2	7.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	2.0	7.9	1.5	0.2	62.8	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.6	0.9	0.2	2.5	0.3	4.2	0.5	4.2	2.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.8	0.0	21.0	23.1	20.6	25.4	36.2	14.4	9.7	89.4	9.7	7.1
LnGrp LOS	C		C	C	C	C	D	B	A	F	A	A
Approach Vol, veh/h		103			296			1178			1045	
Approach Delay, s/veh		21.4			24.5			14.4			20.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	33.8		14.8	6.1	37.7		14.8				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.1	16.7		4.8	2.7	11.7		9.4				
Green Ext Time (p_c), s	0.0	9.6		0.3	0.0	9.5		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh		18.2
HCM 7th LOS		B

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	186	0	0	149	100	0	0	0	30	0	161
Future Vol, veh/h	108	186	0	0	149	100	0	0	0	30	0	161
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	116	200	0	0	160	108	0	0	0	32	0	173

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	269	0	-	-	-	0			647	-	215
Stage 1	-	-	-	-	-	-			215	-	-
Stage 2	-	-	-	-	-	-			432	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	1307	-	0	0	-	-			439	0	830
Stage 1	-	-	0	0	-	-			826	0	-
Stage 2	-	-	0	0	-	-			659	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1305	-	-	-	-	-			399	0	829
Mov Cap-2 Maneuver	-	-	-	-	-	-			500	0	-
Stage 1	-	-	-	-	-	-			751	0	-
Stage 2	-	-	-	-	-	-			658	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.95	0	10.83
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1305	-	-	-	500	829
HCM Lane V/C Ratio	0.089	-	-	-	0.064	0.209
HCM Ctrl Dly (s/v)	8	-	-	-	12.7	10.5
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2	0.8

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	32	47	92	92	25
Future Vol, veh/h	42	32	47	92	92	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	47	36	52	102	102	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	323	116	130	0	-	0
Stage 1	116	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	675	942	1468	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	650	942	1468	-	-	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.39	2.55	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	609	-	750	-	-
HCM Lane V/C Ratio	0.036	-	0.11	-	-
HCM Ctrl Dly (s/v)	7.5	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	40	77	138	0	0	0	0	8	7	0
Future Vol, veh/h	0	9	40	77	138	0	0	0	0	8	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	10	44	85	152	0	0	0	0	9	8	0

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	54	0	0			331	375	152
Stage 1	-	-	-	-	-	-			321	321	-
Stage 2	-	-	-	-	-	-			10	54	-
Critical Hdwy	-	-	-	4.1	-	-			6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-			3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1564	-	0			668	559	900
Stage 1	0	-	-	-	-	0			740	655	-
Stage 2	0	-	-	-	-	0			1018	854	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1564	-	-			629	0	900
Mov Cap-2 Maneuver	-	-	-	-	-	-			629	0	-
Stage 1	-	-	-	-	-	-			740	0	-
Stage 2	-	-	-	-	-	-			958	0	-

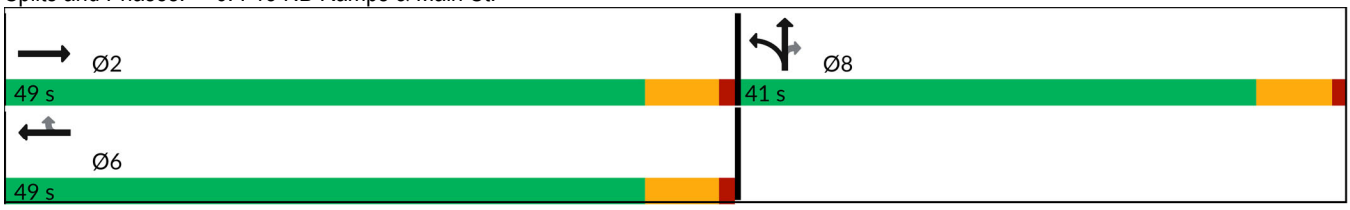
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	2.66	10.88
HCM LOS			B

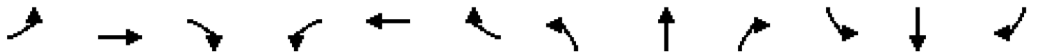
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	645	-	629	-
HCM Lane V/C Ratio	-	-	0.054	-	0.026	-
HCM Ctrl Dly (s/v)	-	-	7.4	0	10.9	0
HCM Lane LOS	-	-	A	A	B	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0.1	-

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	1365	1218	447	161	4	704
Future Volume (vph)	1365	1218	447	161	4	704
Turn Type	NA	NA	Perm	Split	NA	Perm
Protected Phases	2	6		8	8	
Permitted Phases			6			8
Detector Phase	2	6	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	49.0	49.0	49.0	41.0	41.0	41.0
Total Split (%)	54.4%	54.4%	54.4%	45.6%	45.6%	45.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	35.1	35.1	35.1	24.0	24.0	24.0
Actuated g/C Ratio	0.49	0.49	0.49	0.33	0.33	0.33
v/c Ratio	0.72	0.52	0.47	0.31	0.73	0.71
Control Delay (s/veh)	16.7	14.2	3.1	20.3	30.3	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.7	14.2	3.1	20.3	30.3	28.0
LOS	B	B	A	C	C	C
Approach Delay (s/veh)	16.7	11.2			27.5	
Approach LOS	B	B			C	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 71.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 16.8		Intersection LOS: B	
Intersection Capacity Utilization 75.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1365	305	0	1218	447	161	4	704	0	0	0
Future Volume (veh/h)	0	1365	305	0	1218	447	161	4	704	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1407	314	0	1256	461	166	0	729			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2016	449	0	2465	765	495	0	933			
Arrive On Green	0.00	0.50	0.50	0.00	0.50	0.50	0.31	0.00	0.31			
Sat Flow, veh/h	0	4182	895	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1146	575	0	1256	461	166	0	729			
Grp Sat Flow(s),veh/h/ln	0	1638	1639	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	16.7	16.8	0.0	10.7	13.4	4.9	0.0	13.6			
Cycle Q Clear(g_c), s	0.0	16.7	16.8	0.0	10.7	13.4	4.9	0.0	13.6			
Prop In Lane	0.00		0.55	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1643	822	0	2465	765	495	0	933			
V/C Ratio(X)	0.00	0.70	0.70	0.00	0.51	0.60	0.34	0.00	0.78			
Avail Cap(c_a), veh/h	0	2263	1132	0	3394	1054	910	0	1715			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	11.9	11.9	0.0	10.4	11.1	16.7	0.0	19.7			
Incr Delay (d2), s/veh	0.0	0.6	1.2	0.0	0.2	0.8	0.4	0.0	1.5			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.4	4.5	0.0	2.8	3.4	1.6	0.0	4.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.5	13.1	0.0	10.6	11.8	17.1	0.0	21.2			
LnGrp LOS		B	B		B	B	B		C			
Approach Vol, veh/h		1721			1717			895				
Approach Delay, s/veh		12.7			10.9			20.4				
Approach LOS		B			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		37.2				37.2		25.0				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		43.0				43.0		35.0				
Max Q Clear Time (g_c+I1), s		18.8				15.4		15.6				
Green Ext Time (p_c), s		12.5				11.6		3.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.6
HCM 7th LOS	B

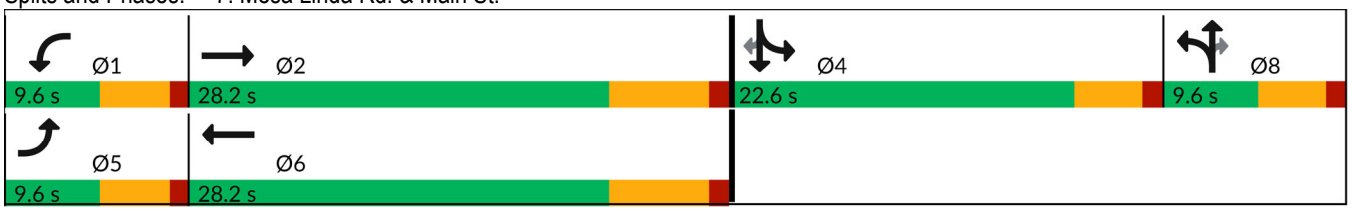
Notes

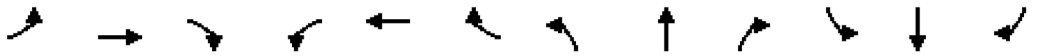
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	832	67	787	4	156	2	4
Future Volume (vph)	15	832	67	787	4	156	2	4
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	18.2	5.1	23.7	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.32	0.09	0.42	0.09	0.09	0.18	0.18
v/c Ratio	0.12	0.63	0.54	0.47	0.28	0.59	0.08	0.01
Control Delay (s/veh)	28.5	18.4	44.0	12.7	31.5	13.8	22.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	18.4	44.0	12.7	31.5	13.8	22.7	0.0
LOS	C	B	D	B	C	B	C	A
Approach Delay (s/veh)		18.6		15.1	17.2		18.7	
Approach LOS		B		B	B		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 56.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay (s/veh): 16.9	Intersection LOS: B
Intersection Capacity Utilization 48.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	832	17	67	787	35	33	4	156	19	2	4
Future Volume (veh/h)	15	832	17	67	787	35	33	4	156	19	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	979	19	79	926	40	39	5	123	22	2	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	1436	28	104	1602	69	141	18	141	291	26	282
Arrive On Green	0.02	0.29	0.29	0.06	0.33	0.33	0.09	0.09	0.09	0.18	0.18	0.18
Sat Flow, veh/h	1619	4962	96	1619	4830	208	1528	196	1525	1578	143	1525
Grp Volume(v), veh/h	18	646	352	79	628	338	44	0	123	24	0	3
Grp Sat Flow(s),veh/h/ln	1619	1638	1783	1619	1638	1763	1724	0	1525	1721	0	1525
Q Serve(g_s), s	0.6	9.5	9.5	2.6	8.6	8.6	1.3	0.0	4.3	0.6	0.0	0.1
Cycle Q Clear(g_c), s	0.6	9.5	9.5	2.6	8.6	8.6	1.3	0.0	4.3	0.6	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.12	0.89		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	35	948	516	104	1087	585	159	0	141	318	0	282
V/C Ratio(X)	0.51	0.68	0.68	0.76	0.58	0.58	0.28	0.00	0.87	0.08	0.00	0.01
Avail Cap(c_a), veh/h	149	1331	724	149	1331	716	159	0	141	572	0	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	17.0	17.0	24.9	15.0	15.0	22.9	0.0	24.3	18.3	0.0	18.0
Incr Delay (d2), s/veh	4.1	0.9	1.6	6.8	0.5	0.9	0.3	0.0	39.8	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	3.2	1.1	2.5	2.8	0.5	0.0	2.8	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.3	17.9	18.6	31.8	15.4	15.9	23.2	0.0	64.0	18.4	0.0	18.0
LnGrp LOS	C	B	B	C	B	B	C		E	B		B
Approach Vol, veh/h		1016			1045			167			27	
Approach Delay, s/veh		18.4			16.8			53.3			18.3	
Approach LOS		B			B			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	21.9		14.6	5.8	24.2		9.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	4.6	11.5		2.6	2.6	10.6		6.3				
Green Ext Time (p_c), s	0.0	4.2		0.1	0.0	4.3		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	14	30	28	30	58
Future Vol, veh/h	96	14	30	28	30	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	133	19	42	39	42	81

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	153	0	256	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1440	-	737	921
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	716	921
Mov Cap-2 Maneuver	-	-	-	-	733	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.92	9.97
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	847	-	-	1440	-
HCM Lane V/C Ratio	0.144	-	-	0.029	-
HCM Ctrl Dly (s/v)	10	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	1	38	51	5
Future Vol, veh/h	3	9	1	38	51	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	10	1	40	54	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	97	54	60	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	907	1019	1557	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	907	1019	1557	-	-	-
Mov Cap-2 Maneuver	860	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.75	0.19	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1557	-	974	-	-
HCM Lane V/C Ratio	0.001	-	0.013	-	-
HCM Ctrl Dly (s/v)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

APPENDIX 5:

EXISTING (2025) TRAFFIC SIGNAL WARRANTS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

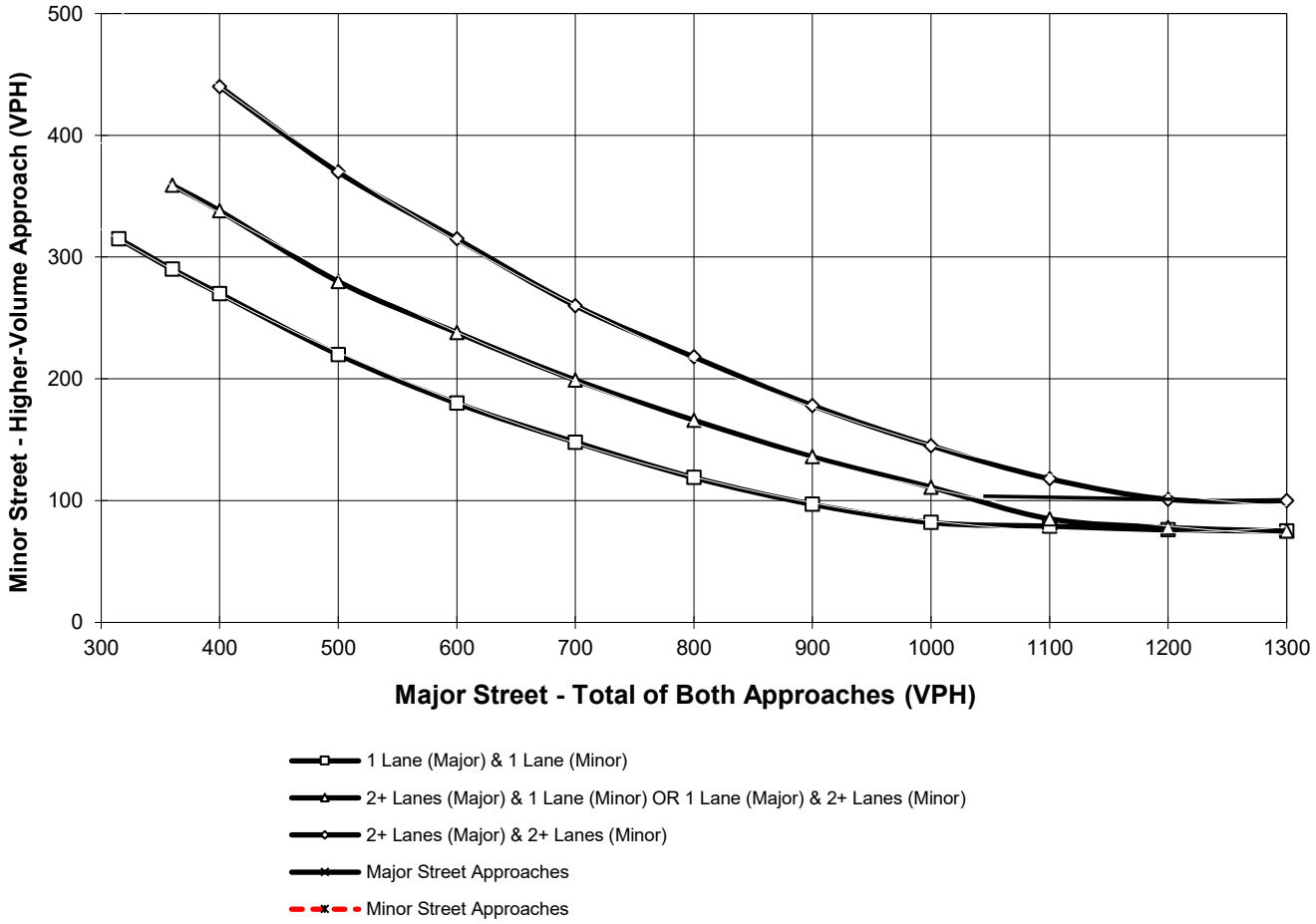
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **67**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **231**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

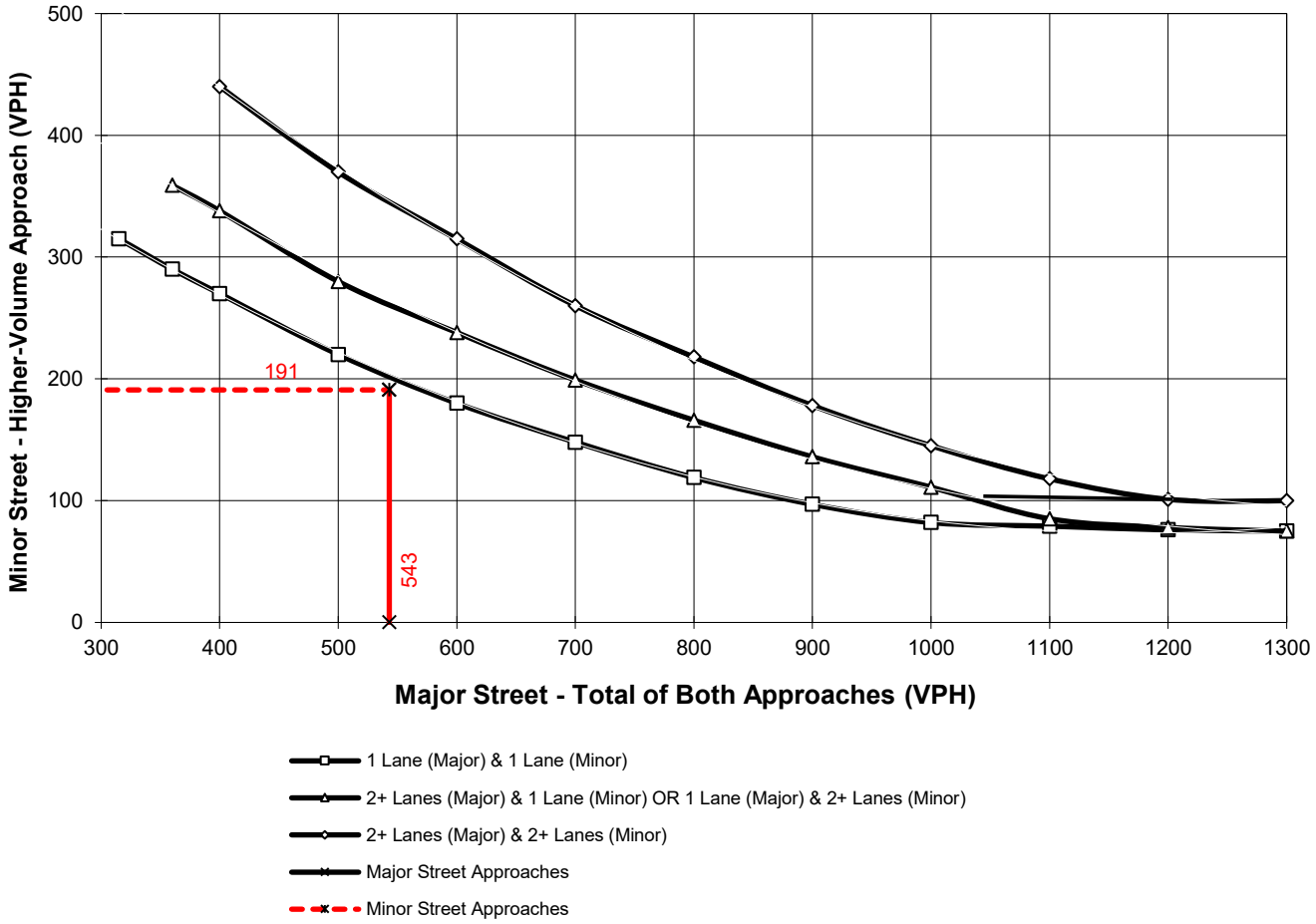
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2025) Conditions - Weekday PM Peak Hour**

Major Street Name = **Joshua St.**
Total of Both Approaches (VPH) = **543**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Outpost Rd.**
High Volume Approach (VPH) = **191**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

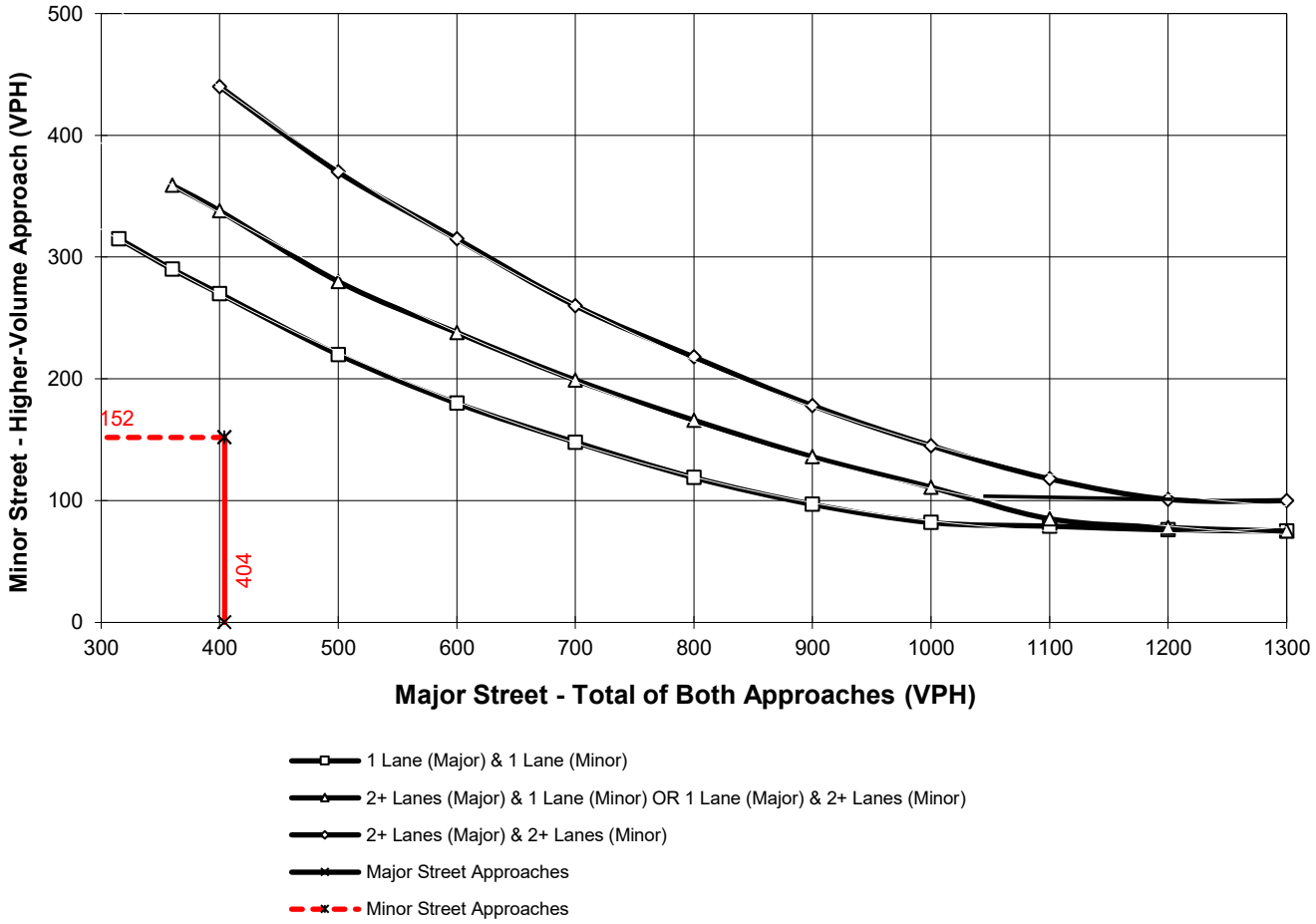
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Mariposa Rd.**
Total of Both Approaches (VPH) = **404**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **152**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

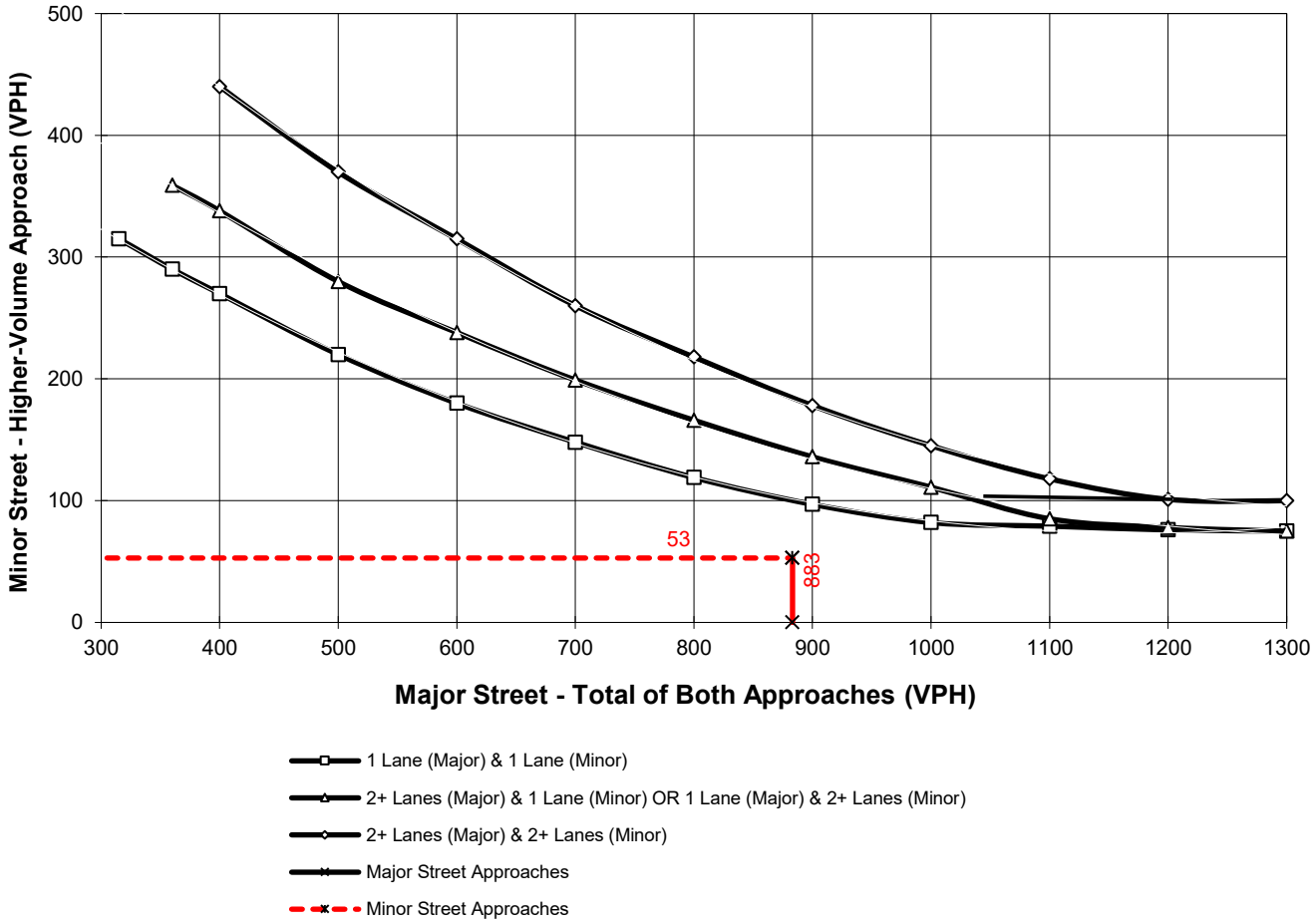
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Oak Hill Rd.**
Total of Both Approaches (VPH) = **883**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-15 SB Ramps**
High Volume Approach (VPH) = **53**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

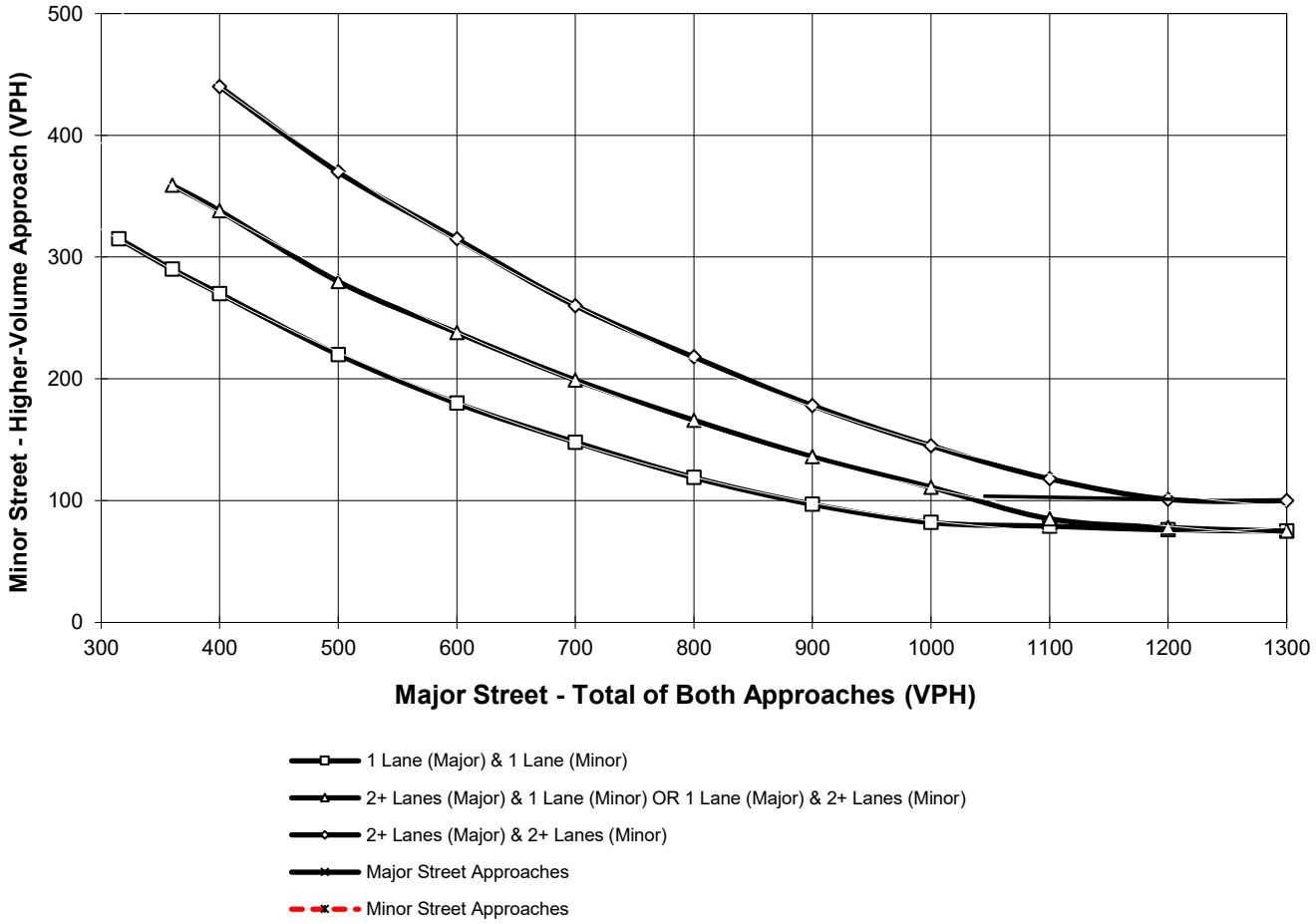
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2025) Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **211**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Driveway**
High Volume Approach (VPH) = **19**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 6:

E+P INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	11

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	348	13	3	69	15	9
Future Vol, veh/h	348	13	3	69	15	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	430	16	4	85	19	11

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	89	46	0	0	89	0
Stage 1	46	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	912	1029	-	-	1519	-
Stage 1	981	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	901	1029	-	-	1519	-
Mov Cap-2 Maneuver	856	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	968	-	-	-	-	-

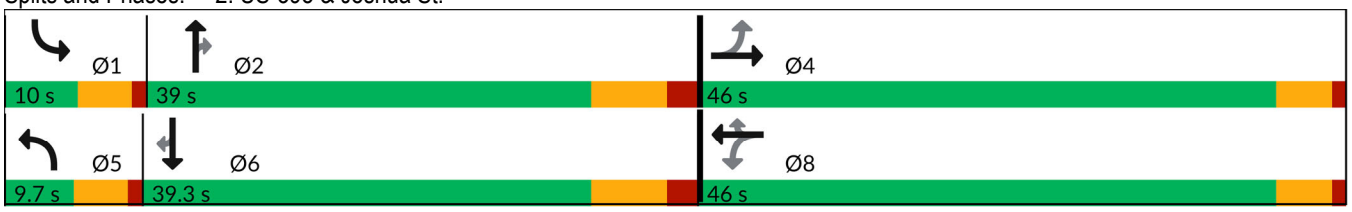
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.58	0	4.63
HCM LOS	B		

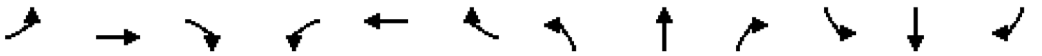
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	861	1519	-
HCM Lane V/C Ratio	-	-	0.518	0.012	-
HCM Ctrl Dly (s/v)	-	-	13.6	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	3	0	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	43	45	77	156	186	19	679	57	142	770	232
Future Volume (vph)	43	45	77	156	186	19	679	57	142	770	232
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.4	13.4	13.7	13.7	13.7	5.4	22.4	22.4	5.7	31.9	31.9
Actuated g/C Ratio	0.22	0.22	0.23	0.23	0.23	0.09	0.37	0.37	0.09	0.53	0.53
v/c Ratio	0.20	0.17	0.31	0.42	0.41	0.15	0.59	0.10	1.03	0.47	0.27
Control Delay (s/veh)	20.2	15.0	21.9	22.6	6.1	36.2	18.9	4.4	116.5	13.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.2	15.0	21.9	22.6	6.1	36.2	18.9	4.4	116.5	13.4	3.4
LOS	C	B	C	C	A	D	B	A	F	B	A
Approach Delay (s/veh)		17.1		15.2			18.3			24.2	
Approach LOS		B		B			B			C	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 60.3	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay (s/veh): 20.5	Intersection LOS: C
Intersection Capacity Utilization 59.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	45	16	77	156	186	19	679	57	142	770	232
Future Volume (veh/h)	43	45	16	77	156	186	19	679	57	142	770	232
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	47	49	14	85	171	150	21	746	50	156	846	224
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	213	207	59	304	276	234	41	1317	587	176	1602	714
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.39	0.39	0.11	0.47	0.47
Sat Flow, veh/h	1016	1346	385	1285	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	47	0	63	85	171	150	21	746	50	156	846	224
Grp Sat Flow(s),veh/h/ln	1016	0	1731	1285	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	2.2	0.0	1.6	3.0	4.3	4.5	0.6	8.4	1.0	4.6	8.5	4.5
Cycle Q Clear(g_c), s	6.5	0.0	1.6	4.6	4.3	4.5	0.6	8.4	1.0	4.6	8.5	4.5
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	266	304	276	234	41	1317	587	176	1602	714
V/C Ratio(X)	0.22	0.00	0.24	0.28	0.62	0.64	0.51	0.57	0.09	0.89	0.53	0.31
Avail Cap(c_a), veh/h	912	0	1455	1187	1514	1283	166	2210	986	176	2231	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	18.1	20.1	19.3	19.4	23.5	11.8	9.5	21.4	9.2	8.1
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.2	0.8	1.1	7.1	0.8	0.1	37.3	0.6	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.8	1.6	1.4	0.3	2.2	0.2	3.2	1.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.6	0.0	18.3	20.3	20.1	20.5	30.6	12.6	9.7	58.7	9.7	8.6
LnGrp LOS	C		B	C	C	C	C	B	A	E	A	A
Approach Vol, veh/h		110			406			817			1226	
Approach Delay, s/veh		20.1			20.3			12.9			15.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	26.3		12.5	5.9	30.3		12.5				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	6.6	10.4		8.5	2.6	10.5		6.6				
Green Ext Time (p_c), s	0.0	8.4		0.3	0.0	10.9		0.9				

Intersection Summary												
HCM 7th Control Delay, s/veh			15.8									
HCM 7th LOS			B									

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	176	0	0	316	69	0	0	0	27	0	100
Future Vol, veh/h	68	176	0	0	316	69	0	0	0	27	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	78	202	0	0	363	79	0	0	0	31	0	115

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	443	0	-	-	-	0			761	-	403
Stage 1	-	-	-	-	-	-			403	-	-
Stage 2	-	-	-	-	-	-			359	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	1128	-	0	0	-	-			376	0	652
Stage 1	-	-	0	0	-	-			679	0	-
Stage 2	-	-	0	0	-	-			711	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1128	-	-	-	-	-			350	0	652
Mov Cap-2 Maneuver	-	-	-	-	-	-			464	0	-
Stage 1	-	-	-	-	-	-			632	0	-
Stage 2	-	-	-	-	-	-			711	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.35	0	12.04
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1128	-	-	-	464	652
HCM Lane V/C Ratio	0.069	-	-	-	0.067	0.176
HCM Ctrl Dly (s/v)	8.4	-	-	-	13.3	11.7
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.6

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	123	67	77	215	63
Future Vol, veh/h	33	123	67	77	215	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	154	84	96	269	79

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	572	308	348	0	-	0
Stage 1	308	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	485	737	1223	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	450	737	1223	-	-	-
Mov Cap-2 Maneuver	450	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	785	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.91	3.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	838	-	649	-	-
HCM Lane V/C Ratio	0.068	-	0.3	-	-
HCM Ctrl Dly (s/v)	8.2	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.3	-	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	417	428	27	0	0	0	0	11	36	6
Future Vol, veh/h	0	11	417	428	27	0	0	0	0	11	36	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	448	460	29	0	0	0	0	12	39	6

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	460	0	0			961	1410	29
Stage 1	-	-	-	-	-	-			949	949	-
Stage 2	-	-	-	-	-	-			12	460	-
Critical Hdwy	-	-	-	4.1	-	-			6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-			3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1111	-	0			287	140	1052
Stage 1	0	-	-	-	-	0			379	342	-
Stage 2	0	-	-	-	-	0			1016	569	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1111	-	-			166	0	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-			166	0	-
Stage 1	-	-	-	-	-	-			379	0	-
Stage 2	-	-	-	-	-	-			589	0	-

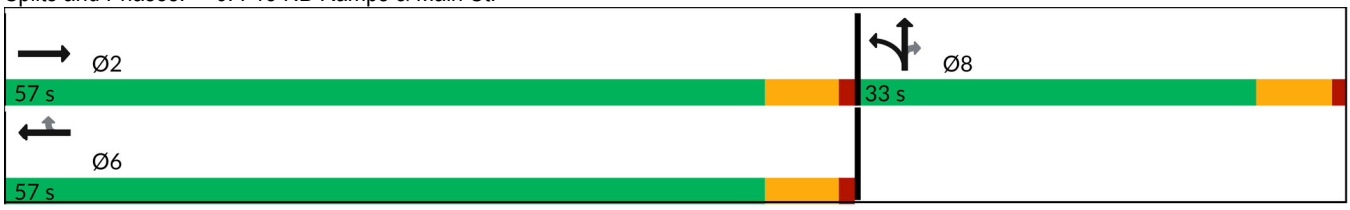
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	9.88	32.8
HCM LOS			D

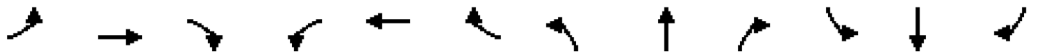
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1094	-	166	1052
HCM Lane V/C Ratio	-	-	0.414	-	0.304	0.006
HCM Ctrl Dly (s/v)	-	-	10.5	0	35.9	8.4
HCM Lane LOS	-	-	B	A	E	A
HCM 95th %tile Q(veh)	-	-	2.1	-	1.2	0

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	1030	1098	602	78	2	398
Future Volume (vph)	1030	1098	602	78	2	398
Turn Type	NA	NA	Perm	Split	NA	Perm
Protected Phases	2	6		8	8	
Permitted Phases			6			8
Detector Phase	2	6	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	57.0	57.0	57.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	27.0	27.0	27.0	12.9	12.9	12.9
Actuated g/C Ratio	0.51	0.51	0.51	0.25	0.25	0.25
v/c Ratio	0.58	0.46	0.58	0.21	0.51	0.50
Control Delay (s/veh)	8.7	8.6	3.2	20.0	17.4	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.7	8.6	3.2	20.0	17.4	17.2
LOS	A	A	A	B	B	B
Approach Delay (s/veh)	8.7	6.7			17.7	
Approach LOS	A	A			B	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 52.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 8.9		Intersection LOS: A	
Intersection Capacity Utilization 58.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1030	322	0	1098	602	78	2	398	0	0	0
Future Volume (veh/h)	0	1030	322	0	1098	602	78	2	398	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1096	321	0	1168	613	83	0	382			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2161	633	0	2815	874	314	0	592			
Arrive On Green	0.00	0.57	0.57	0.00	0.57	0.57	0.19	0.00	0.19			
Sat Flow, veh/h	0	3934	1105	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	952	465	0	1168	613	83	0	382			
Grp Sat Flow(s),veh/h/ln	0	1638	1601	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	9.0	9.0	0.0	6.9	14.8	2.2	0.0	5.9			
Cycle Q Clear(g_c), s	0.0	9.0	9.0	0.0	6.9	14.8	2.2	0.0	5.9			
Prop In Lane	0.00		0.69	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1877	917	0	2815	874	314	0	592			
V/C Ratio(X)	0.00	0.51	0.51	0.00	0.41	0.70	0.26	0.00	0.64			
Avail Cap(c_a), veh/h	0	3244	1585	0	4866	1510	849	0	1599			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	6.6	6.6	0.0	6.2	7.9	17.6	0.0	19.1			
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.0	0.1	1.0	0.4	0.0	1.2			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	1.6	1.6	0.0	1.2	2.6	0.7	0.0	1.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	6.8	7.1	0.0	6.3	8.9	18.1	0.0	20.3			
LnGrp LOS		A	A		A	A	B		C			
Approach Vol, veh/h		1417			1781			465				
Approach Delay, s/veh		6.9			7.2			19.9				
Approach LOS		A			A			B				

Timer - Assigned Phs	2			6		8		
Phs Duration (G+Y+Rc), s	35.5			35.5		16.0		
Change Period (Y+Rc), s	6.0			6.0		6.0		
Max Green Setting (Gmax), s	51.0			51.0		27.0		
Max Q Clear Time (g_c+I1), s	11.0			16.8		7.9		
Green Ext Time (p_c), s	11.5			12.7		1.6		

Intersection Summary	
HCM 7th Control Delay, s/veh	8.7
HCM 7th LOS	A

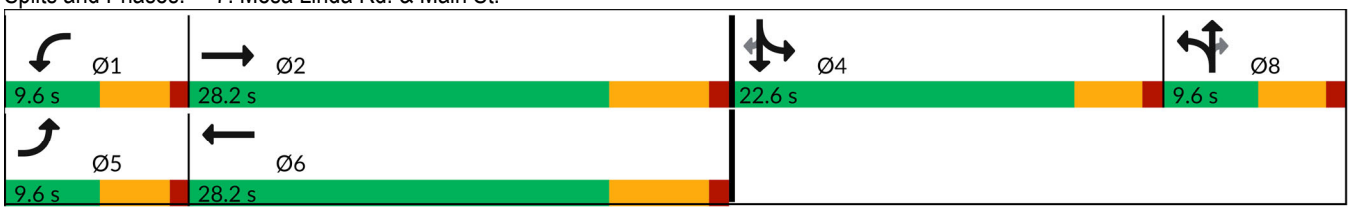
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	13	913	53	614	1	44	0	13
Future Volume (vph)	13	913	53	614	1	44	0	13
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.5	17.2	5.5	20.4	5.5	5.5	11.0	11.0
Actuated g/C Ratio	0.11	0.35	0.11	0.41	0.11	0.11	0.22	0.22
v/c Ratio	0.08	0.58	0.32	0.34	0.03	0.14	0.10	0.03
Control Delay (s/veh)	27.4	15.8	31.3	10.8	26.6	0.8	22.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.4	15.8	31.3	10.8	26.6	0.8	22.5	0.1
LOS	C	B	C	B	C	A	C	A
Approach Delay (s/veh)		15.9		12.4	3.3		16.6	
Approach LOS		B		B	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 49.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay (s/veh): 14.2	Intersection LOS: B
Intersection Capacity Utilization 44.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	913	7	53	614	21	4	1	44	36	0	13
Future Volume (veh/h)	13	913	7	53	614	21	4	1	44	36	0	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	982	8	57	660	23	4	1	31	39	0	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	29	1509	12	89	1645	57	55	14	60	346	0	308
Arrive On Green	0.02	0.30	0.30	0.05	0.34	0.34	0.04	0.04	0.04	0.20	0.00	0.20
Sat Flow, veh/h	1619	5028	41	1619	4876	169	1385	346	1525	1714	0	1525
Grp Volume(v), veh/h	14	640	350	57	443	240	5	0	31	39	0	10
Grp Sat Flow(s),veh/h/ln	1619	1638	1793	1619	1638	1770	1731	0	1525	1714	0	1525
Q Serve(g_s), s	0.4	8.4	8.4	1.7	5.1	5.2	0.1	0.0	1.0	0.9	0.0	0.3
Cycle Q Clear(g_c), s	0.4	8.4	8.4	1.7	5.1	5.2	0.1	0.0	1.0	0.9	0.0	0.3
Prop In Lane	1.00		0.02	1.00		0.10	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	29	984	538	89	1105	597	68	0	60	346	0	308
V/C Ratio(X)	0.49	0.65	0.65	0.64	0.40	0.40	0.07	0.00	0.52	0.11	0.00	0.03
Avail Cap(c_a), veh/h	163	1455	796	163	1455	786	175	0	154	623	0	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	15.1	15.1	22.9	12.6	12.6	22.9	0.0	23.3	16.2	0.0	15.9
Incr Delay (d2), s/veh	4.7	0.7	1.3	2.9	0.2	0.4	0.2	0.0	2.5	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	2.7	0.6	1.4	1.6	0.0	0.0	0.3	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.8	15.8	16.4	25.8	12.8	13.0	23.1	0.0	25.9	16.3	0.0	15.9
LnGrp LOS	C	B	B	C	B	B	C		C	B		B
Approach Vol, veh/h		1004			740			36			49	
Approach Delay, s/veh		16.2			13.9			25.5			16.2	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	21.1		14.6	5.5	22.9		6.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	3.7	10.4		2.9	2.4	7.2		3.0				
Green Ext Time (p_c), s	0.0	4.4		0.1	0.0	3.3		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	15.4	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	30	81	8	34	53
Future Vol, veh/h	12	30	81	8	34	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	36	96	10	40	63

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	50	0	217	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	202	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1570	-	776	1071
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	836	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1570	-	728	1071
Mov Cap-2 Maneuver	-	-	-	-	708	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6.77	9.56
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	892	-	-	1570	-
HCM Lane V/C Ratio	0.116	-	-	0.061	-
HCM Ctrl Dly (s/v)	9.6	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	28	35	104	172	28
Future Vol, veh/h	7	28	35	104	172	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	35	43	128	212	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	427	212	247	0	-	0
Stage 1	212	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	588	833	1331	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	569	833	1331	-	-	-
Mov Cap-2 Maneuver	631	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	826	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.87	1.96	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1331	-	783	-	-
HCM Lane V/C Ratio	0.032	-	0.055	-	-
HCM Ctrl Dly (s/v)	7.8	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	21	11	203	28	3
Future Vol, veh/h	68	21	11	203	28	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	119	37	19	356	49	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	298	197	0	0	375	0
Stage 1	197	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	686	849	-	-	1194	-
Stage 1	841	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	658	849	-	-	1194	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	880	-	-	-	-	-

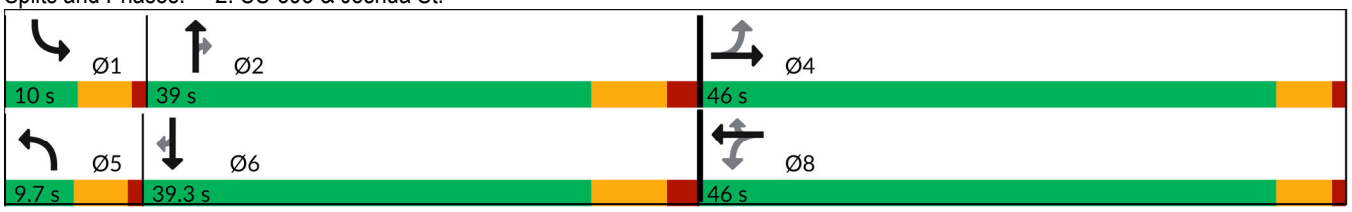
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.34	0	7.36
HCM LOS	B		

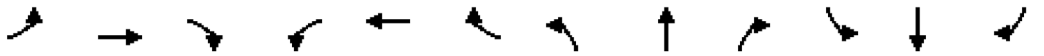
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	724	1194	-
HCM Lane V/C Ratio	-	-	0.216	0.041	-
HCM Ctrl Dly (s/v)	-	-	11.3	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	85	136	72	46	221	22	1015	112	134	828	52
Future Volume (vph)	85	136	72	46	221	22	1015	112	134	828	52
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	13.7	13.7	13.7	13.7	13.7	5.2	30.7	30.7	5.5	39.7	39.7
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.08	0.45	0.45	0.08	0.59	0.59
v/c Ratio	0.36	0.44	0.35	0.13	0.53	0.19	0.69	0.16	1.08	0.44	0.06
Control Delay (s/veh)	25.9	25.1	26.4	21.1	12.3	39.0	20.3	4.6	138.8	12.5	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.9	25.1	26.4	21.1	12.3	39.0	20.3	4.6	138.8	12.5	3.1
LOS	C	C	C	C	B	D	C	A	F	B	A
Approach Delay (s/veh)		25.4		16.5			19.1			28.7	
Approach LOS		C		B			B			C	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 67.7	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay (s/veh): 22.9	Intersection LOS: C
Intersection Capacity Utilization 69.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	136	15	72	46	221	22	1015	112	134	828	52
Future Volume (veh/h)	85	136	15	72	46	221	22	1015	112	134	828	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	89	143	14	76	48	201	23	1068	90	141	872	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	295	297	29	243	331	280	43	1511	674	143	1722	768
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.03	0.44	0.44	0.09	0.50	0.50
Sat Flow, veh/h	1085	1614	158	1180	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	89	0	157	76	48	201	23	1068	90	141	872	44
Grp Sat Flow(s),veh/h/ln	1085	0	1772	1180	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	4.5	0.0	4.8	3.7	1.3	7.4	0.8	15.2	2.1	5.2	10.2	0.9
Cycle Q Clear(g_c), s	5.8	0.0	4.8	8.5	1.3	7.4	0.8	15.2	2.1	5.2	10.2	0.9
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	0	326	243	331	280	43	1511	674	143	1722	768
V/C Ratio(X)	0.30	0.00	0.48	0.31	0.15	0.72	0.54	0.71	0.13	0.99	0.51	0.06
Avail Cap(c_a), veh/h	835	0	1208	831	1228	1040	135	1792	799	143	1809	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	22.0	25.8	20.6	23.1	28.9	13.6	9.9	27.4	9.9	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.3	0.1	1.3	7.5	1.6	0.2	71.4	0.5	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.8	1.0	0.5	2.5	0.4	4.5	0.5	4.6	2.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.2	0.0	22.4	26.0	20.6	24.4	36.4	15.2	10.1	98.7	10.4	7.7
LnGrp LOS	C		C	C	C	C	D	B	B	F	B	A
Approach Vol, veh/h		246			325			1181			1057	
Approach Delay, s/veh		22.7			24.2			15.2			22.1	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	34.1		16.0	6.3	37.8		16.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.2	17.2		7.8	2.8	12.2		10.5				
Green Ext Time (p_c), s	0.0	9.3		0.7	0.0	9.4		0.6				

Intersection Summary			
HCM 7th Control Delay, s/veh		19.5	
HCM 7th LOS		B	

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	274	0	0	177	100	0	0	0	30	0	161
Future Vol, veh/h	108	274	0	0	177	100	0	0	0	30	0	161
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	116	295	0	0	190	108	0	0	0	32	0	173

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	299	0	-	-	-	0			772	-	245
Stage 1	-	-	-	-	-	-			245	-	-
Stage 2	-	-	-	-	-	-			527	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	1274	-	0	0	-	-			371	0	799
Stage 1	-	-	0	0	-	-			800	0	-
Stage 2	-	-	0	0	-	-			596	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	1273	-	-	-	-	-			336	0	798
Mov Cap-2 Maneuver	-	-	-	-	-	-			449	0	-
Stage 1	-	-	-	-	-	-			727	0	-
Stage 2	-	-	-	-	-	-			596	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.29	0	11.21
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1273	-	-	-	449	798
HCM Lane V/C Ratio	0.091	-	-	-	0.072	0.217
HCM Ctrl Dly (s/v)	8.1	-	-	-	13.6	10.8
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2	0.8

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	42	50	92	92	28
Future Vol, veh/h	52	42	50	92	92	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	58	47	56	102	102	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	331	118	133	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	668	940	1464	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	641	940	1464	-	-	-
Mov Cap-2 Maneuver	641	-	-	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	827	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.6	2.66	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	634	-	747	-	-
HCM Lane V/C Ratio	0.038	-	0.14	-	-
HCM Ctrl Dly (s/v)	7.6	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	40	77	138	0	0	0	0	8	7	0
Future Vol, veh/h	0	9	40	77	138	0	0	0	0	8	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	10	44	85	152	0	0	0	0	9	8	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	54	0	0	331	375	152
Stage 1	-	-	-	-	-	-	321	321	-
Stage 2	-	-	-	-	-	-	10	54	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1564	-	0	668	559	900
Stage 1	0	-	-	-	-	0	740	655	-
Stage 2	0	-	-	-	-	0	1018	854	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1564	-	-	629	0	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	629	0	-
Stage 1	-	-	-	-	-	-	740	0	-
Stage 2	-	-	-	-	-	-	958	0	-

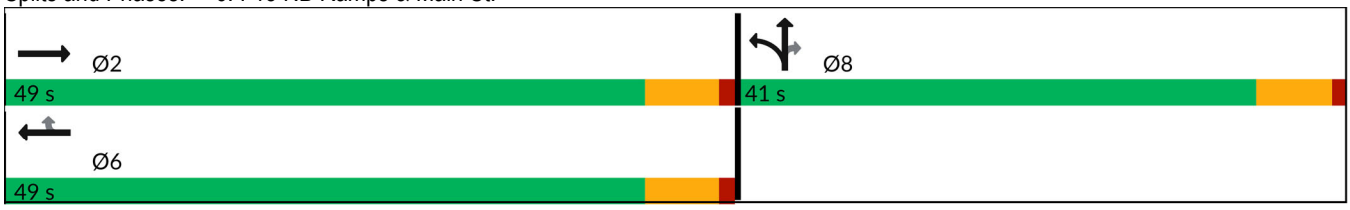
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	2.66	10.88
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	645	-	629	-
HCM Lane V/C Ratio	-	-	0.054	-	0.026	-
HCM Ctrl Dly (s/v)	-	-	7.4	0	10.9	0
HCM Lane LOS	-	-	A	A	B	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0.1	-

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations						
Traffic Volume (vph)	1375	1221	447	161	4	704
Future Volume (vph)	1375	1221	447	161	4	704
Turn Type	NA	NA	Perm	Split	NA	Perm
Protected Phases	2	6		8	8	
Permitted Phases			6			8
Detector Phase	2	6	6	8	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	49.0	49.0	49.0	41.0	41.0	41.0
Total Split (%)	54.4%	54.4%	54.4%	45.6%	45.6%	45.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	Min	Min	Min
Act Effct Green (s)	35.2	35.2	35.2	24.1	24.1	24.1
Actuated g/C Ratio	0.49	0.49	0.49	0.33	0.33	0.33
v/c Ratio	0.73	0.52	0.47	0.31	0.74	0.71
Control Delay (s/veh)	16.8	14.2	3.1	20.3	30.4	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.8	14.2	3.1	20.3	30.4	28.1
LOS	B	B	A	C	C	C
Approach Delay (s/veh)	16.8	11.2			27.6	
Approach LOS	B	B			C	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 16.8		Intersection LOS: B	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: I-15 NB Ramps & Main St.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1375	305	0	1221	447	161	4	704	0	0	0
Future Volume (veh/h)	0	1375	305	0	1221	447	161	4	704	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	0	1418	314	0	1259	461	166	0	729			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	0	2025	447	0	2471	767	494	0	931			
Arrive On Green	0.00	0.50	0.50	0.00	0.50	0.50	0.31	0.00	0.31			
Sat Flow, veh/h	0	4189	889	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	0	1153	579	0	1259	461	166	0	729			
Grp Sat Flow(s),veh/h/ln	0	1638	1640	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	16.9	17.0	0.0	10.7	13.5	5.0	0.0	13.6			
Cycle Q Clear(g_c), s	0.0	16.9	17.0	0.0	10.7	13.5	5.0	0.0	13.6			
Prop In Lane	0.00		0.54	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1648	825	0	2471	767	494	0	931			
V/C Ratio(X)	0.00	0.70	0.70	0.00	0.51	0.60	0.34	0.00	0.78			
Avail Cap(c_a), veh/h	0	2251	1127	0	3377	1048	906	0	1707			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	11.9	11.9	0.0	10.4	11.1	16.8	0.0	19.8			
Incr Delay (d2), s/veh	0.0	0.6	1.2	0.0	0.2	0.8	0.4	0.0	1.5			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	4.5	4.6	0.0	2.8	3.4	1.6	0.0	4.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.5	13.2	0.0	10.6	11.8	17.2	0.0	21.3			
LnGrp LOS		B	B		B	B	B		C			
Approach Vol, veh/h		1732			1720			895				
Approach Delay, s/veh		12.7			10.9			20.6				
Approach LOS		B			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		37.5				37.5		25.1				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		43.0				43.0		35.0				
Max Q Clear Time (g_c+I1), s		19.0				15.5		15.6				
Green Ext Time (p_c), s		12.5				11.6		3.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	13.6
HCM 7th LOS	B

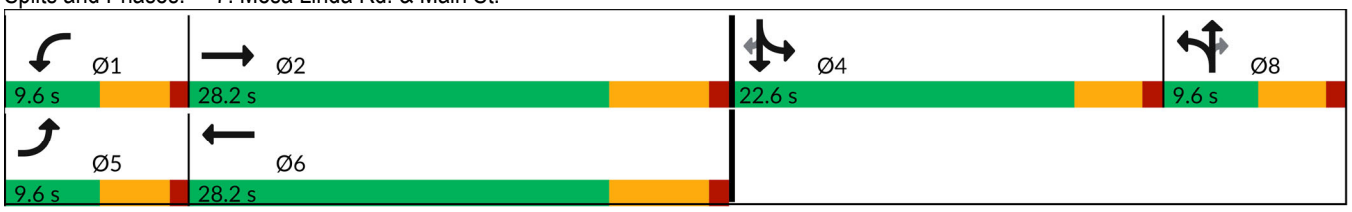
Notes

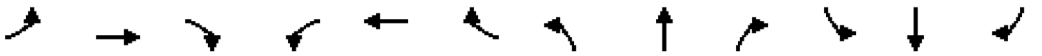
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	842	67	790	4	156	2	4
Future Volume (vph)	15	842	67	790	4	156	2	4
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	18.3	5.1	23.8	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.32	0.09	0.42	0.09	0.09	0.18	0.18
v/c Ratio	0.12	0.64	0.54	0.47	0.28	0.59	0.08	0.01
Control Delay (s/veh)	28.5	18.4	44.2	12.7	31.6	13.8	22.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	18.4	44.2	12.7	31.6	13.8	22.7	0.0
LOS	C	B	D	B	C	B	C	A
Approach Delay (s/veh)		18.6		15.1	17.2		18.8	
Approach LOS		B		B	B		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 56.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay (s/veh): 16.9	Intersection LOS: B
Intersection Capacity Utilization 48.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	842	17	67	790	35	33	4	156	19	2	4
Future Volume (veh/h)	15	842	17	67	790	35	33	4	156	19	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	991	19	79	929	40	39	5	123	22	2	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	1447	28	104	1612	69	141	18	140	290	26	281
Arrive On Green	0.02	0.29	0.29	0.06	0.33	0.33	0.09	0.09	0.09	0.18	0.18	0.18
Sat Flow, veh/h	1619	4964	95	1619	4831	208	1528	196	1525	1578	143	1525
Grp Volume(v), veh/h	18	654	356	79	630	339	44	0	123	24	0	3
Grp Sat Flow(s),veh/h/ln	1619	1638	1783	1619	1638	1763	1724	0	1525	1721	0	1525
Q Serve(g_s), s	0.6	9.6	9.6	2.6	8.6	8.6	1.3	0.0	4.3	0.6	0.0	0.1
Cycle Q Clear(g_c), s	0.6	9.6	9.6	2.6	8.6	8.6	1.3	0.0	4.3	0.6	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.12	0.89		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	35	955	520	104	1093	588	159	0	140	317	0	281
V/C Ratio(X)	0.51	0.68	0.69	0.76	0.58	0.58	0.28	0.00	0.88	0.08	0.00	0.01
Avail Cap(c_a), veh/h	149	1327	722	149	1327	714	159	0	140	570	0	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	17.0	17.0	25.0	14.9	14.9	23.0	0.0	24.4	18.3	0.0	18.1
Incr Delay (d2), s/veh	4.1	0.9	1.6	7.0	0.5	0.9	0.3	0.0	40.5	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	3.3	1.1	2.5	2.8	0.5	0.0	2.9	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.4	17.9	18.6	32.0	15.4	15.8	23.3	0.0	64.8	18.4	0.0	18.1
LnGrp LOS	C	B	B	C	B	B	C		E	B		B
Approach Vol, veh/h		1028			1048			167			27	
Approach Delay, s/veh		18.4			16.8			53.9			18.4	
Approach LOS		B			B			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	22.0		14.6	5.8	24.3		9.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	4.6	11.6		2.6	2.6	10.6		6.3				
Green Ext Time (p_c), s	0.0	4.2		0.1	0.0	4.3		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	20.3	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	96	14	30	28	30	58
Future Vol, veh/h	96	14	30	28	30	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	133	19	42	39	42	81

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	153	0	256	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1440	-	737	921
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	716	921
Mov Cap-2 Maneuver	-	-	-	-	733	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	882	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.92	9.97
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	847	-	-	1440	-
HCM Lane V/C Ratio	0.144	-	-	0.029	-
HCM Ctrl Dly (s/v)	10	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	46	16	54	111	15
Future Vol, veh/h	29	46	16	54	111	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	31	49	17	57	118	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	210	118	134	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	783	939	1463	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	774	939	1463	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.58	1.71	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1463	-	867	-	-
HCM Lane V/C Ratio	0.012	-	0.092	-	-
HCM Ctrl Dly (s/v)	7.5	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX 7:

E+P TRAFFIC SIGNAL WARRANTS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

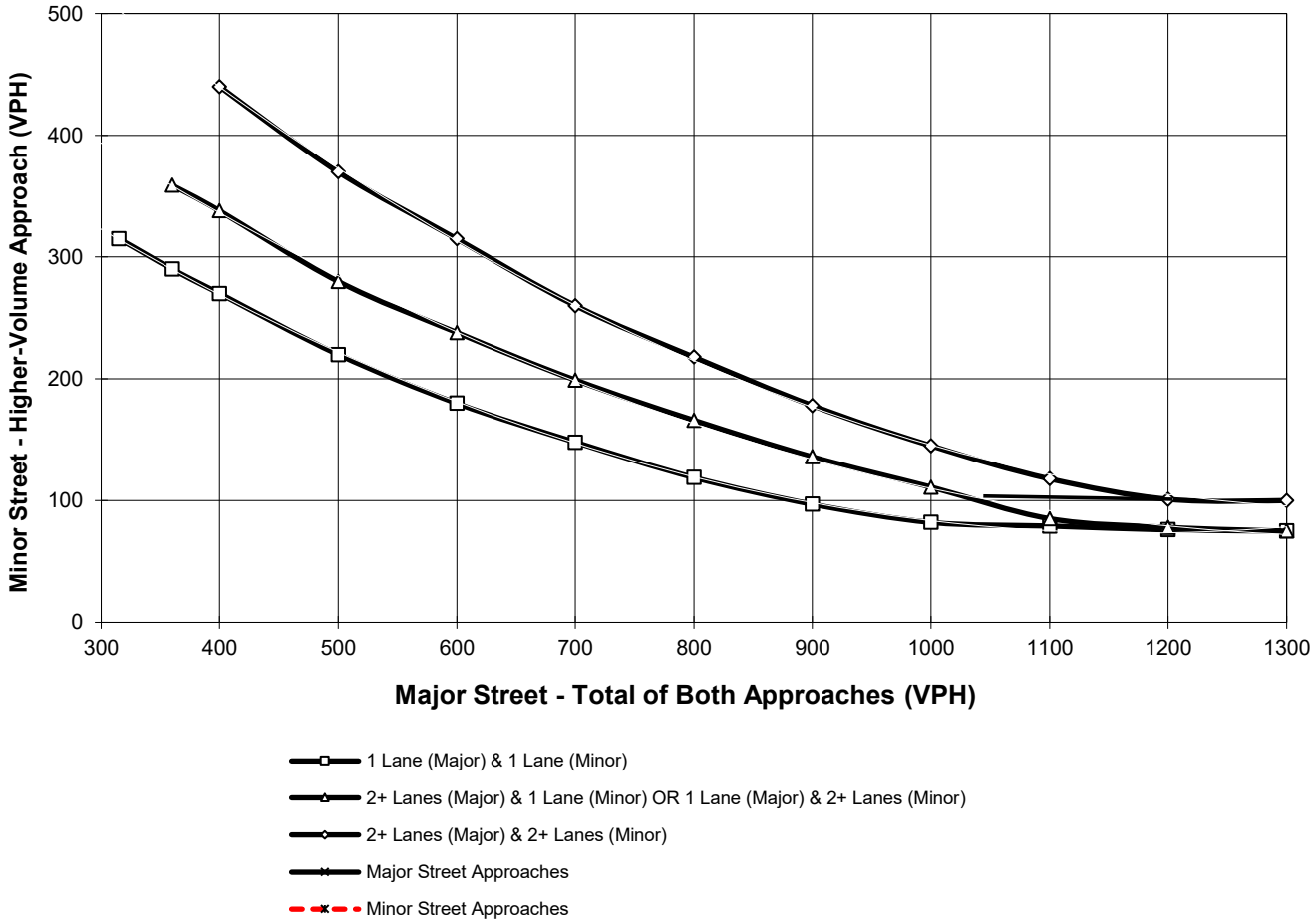
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **96**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **361**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

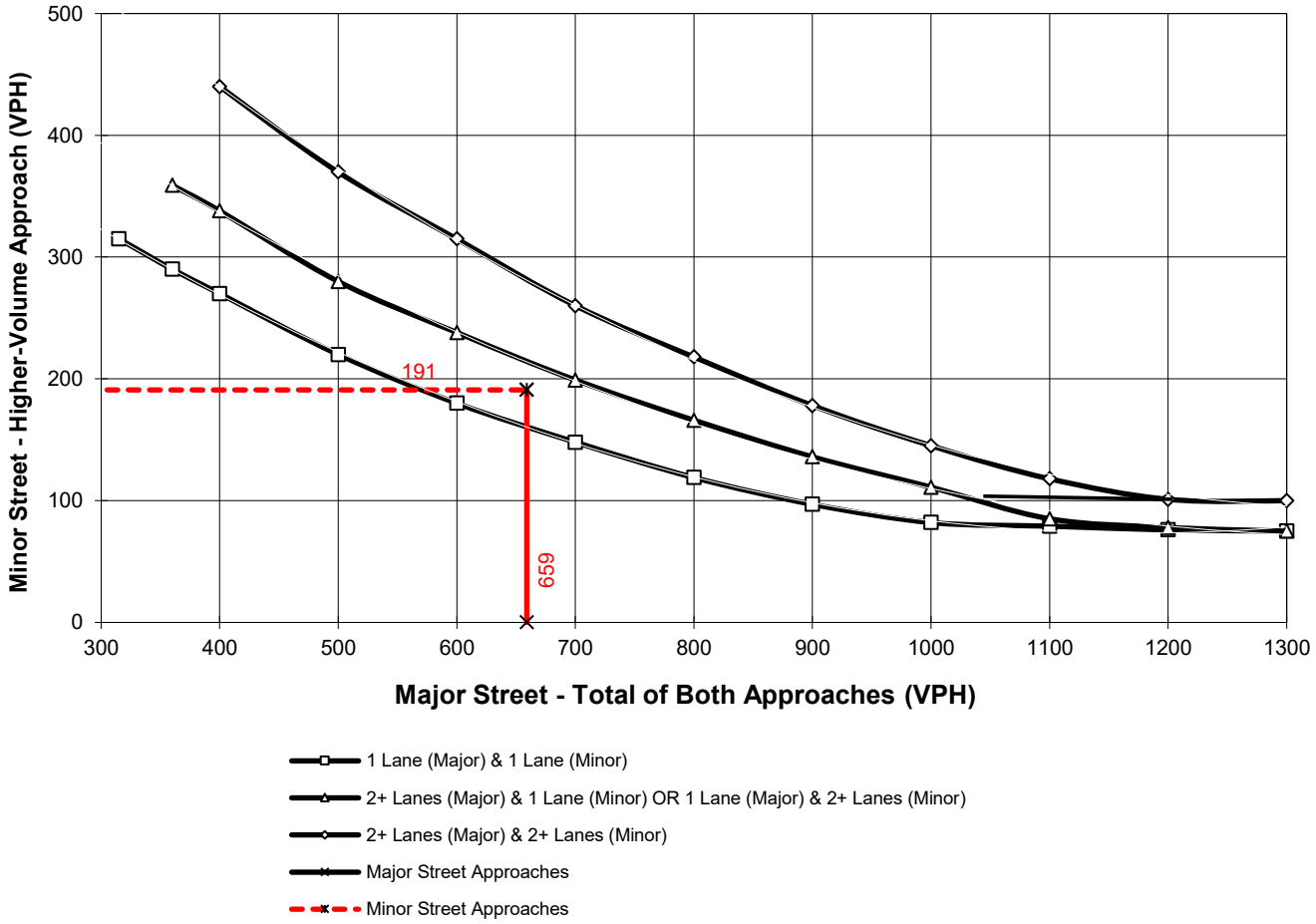
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

Major Street Name = **Joshua St.**
Total of Both Approaches (VPH) = **659**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Outpost Rd.**
High Volume Approach (VPH) = **191**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

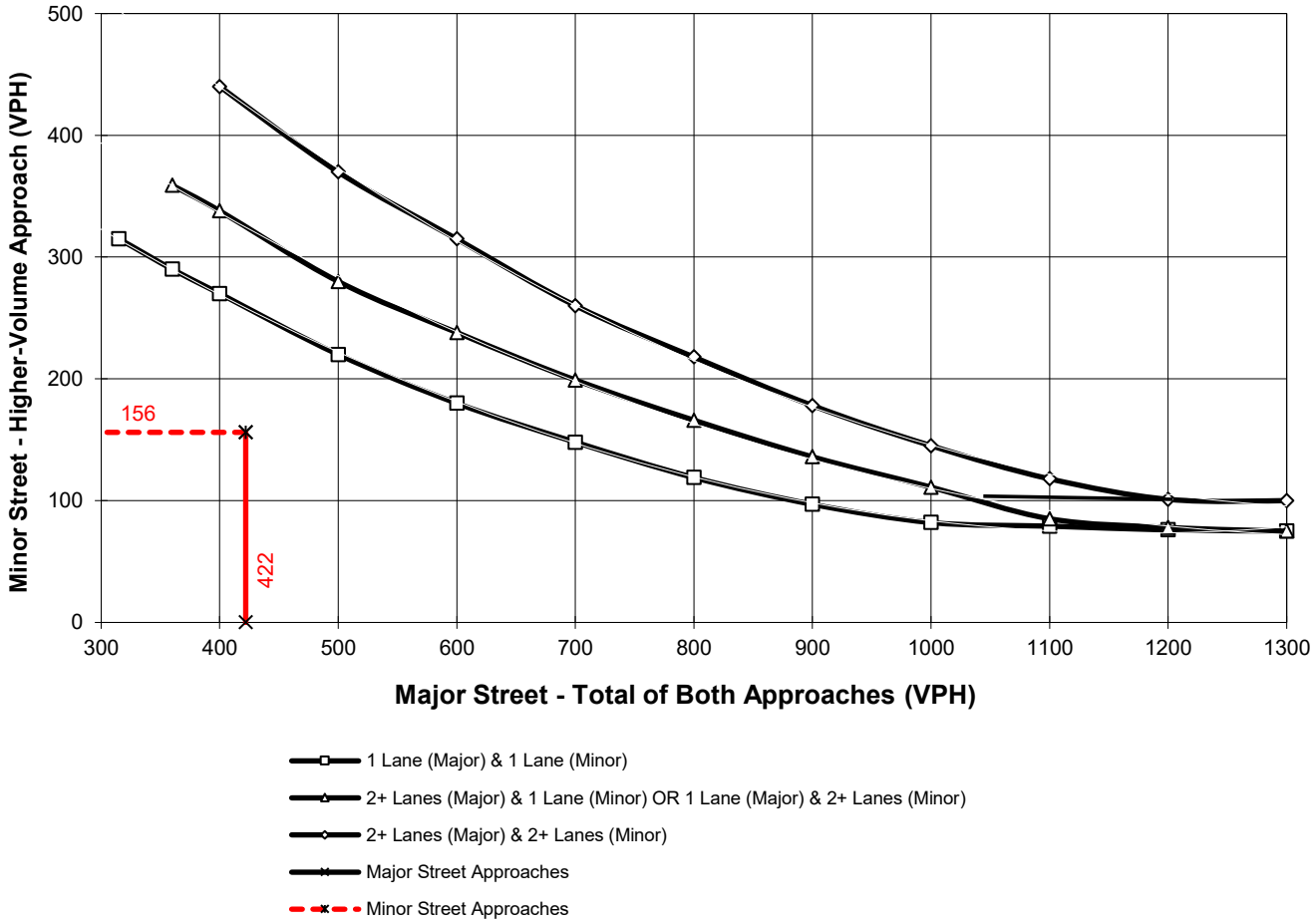
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

Major Street Name = **Mariposa Rd.**
Total of Both Approaches (VPH) = **422**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **156**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

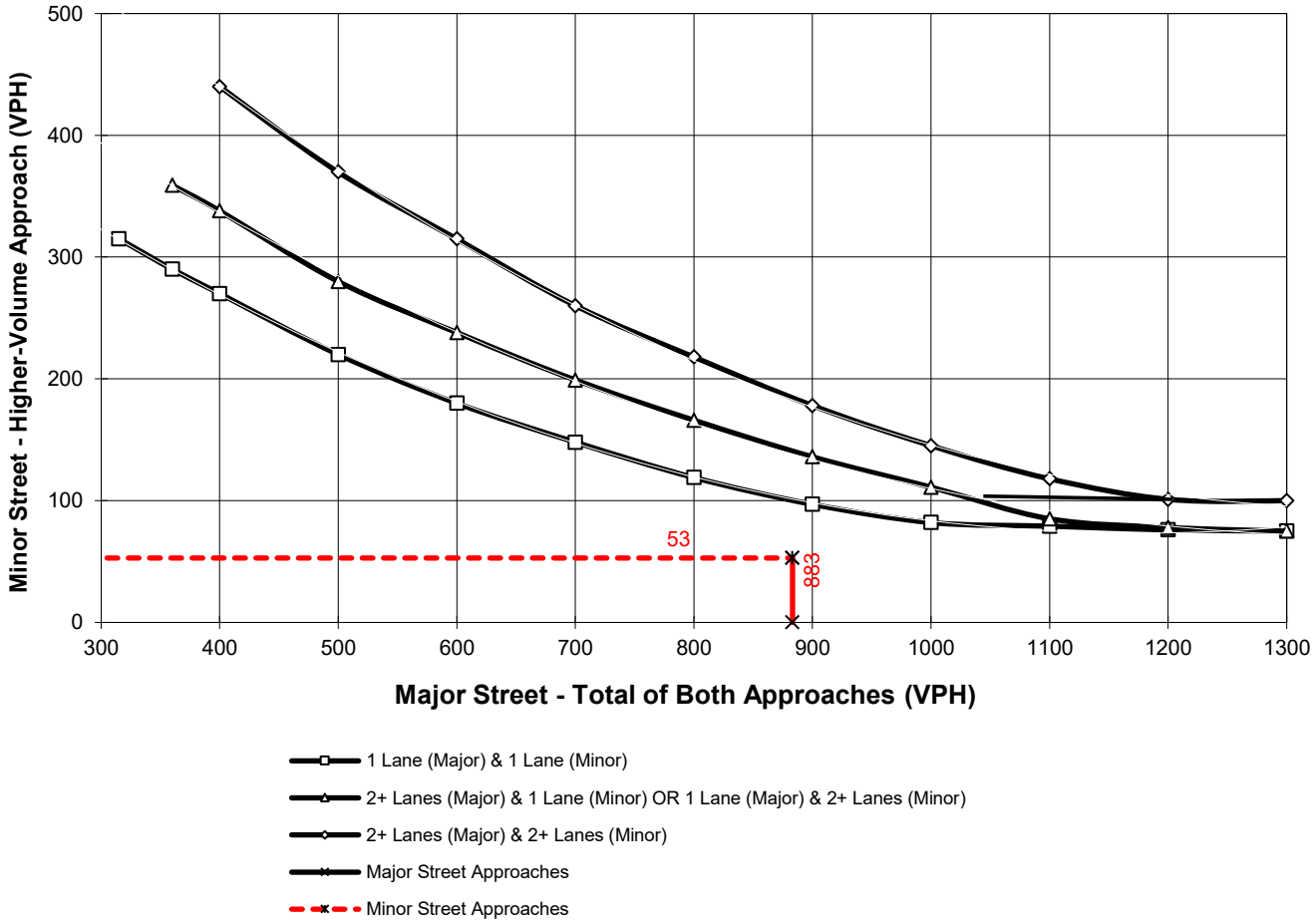
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

Major Street Name = **Oak Hill Rd.**
Total of Both Approaches (VPH) = **883**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-15 SB Ramps**
High Volume Approach (VPH) = **53**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

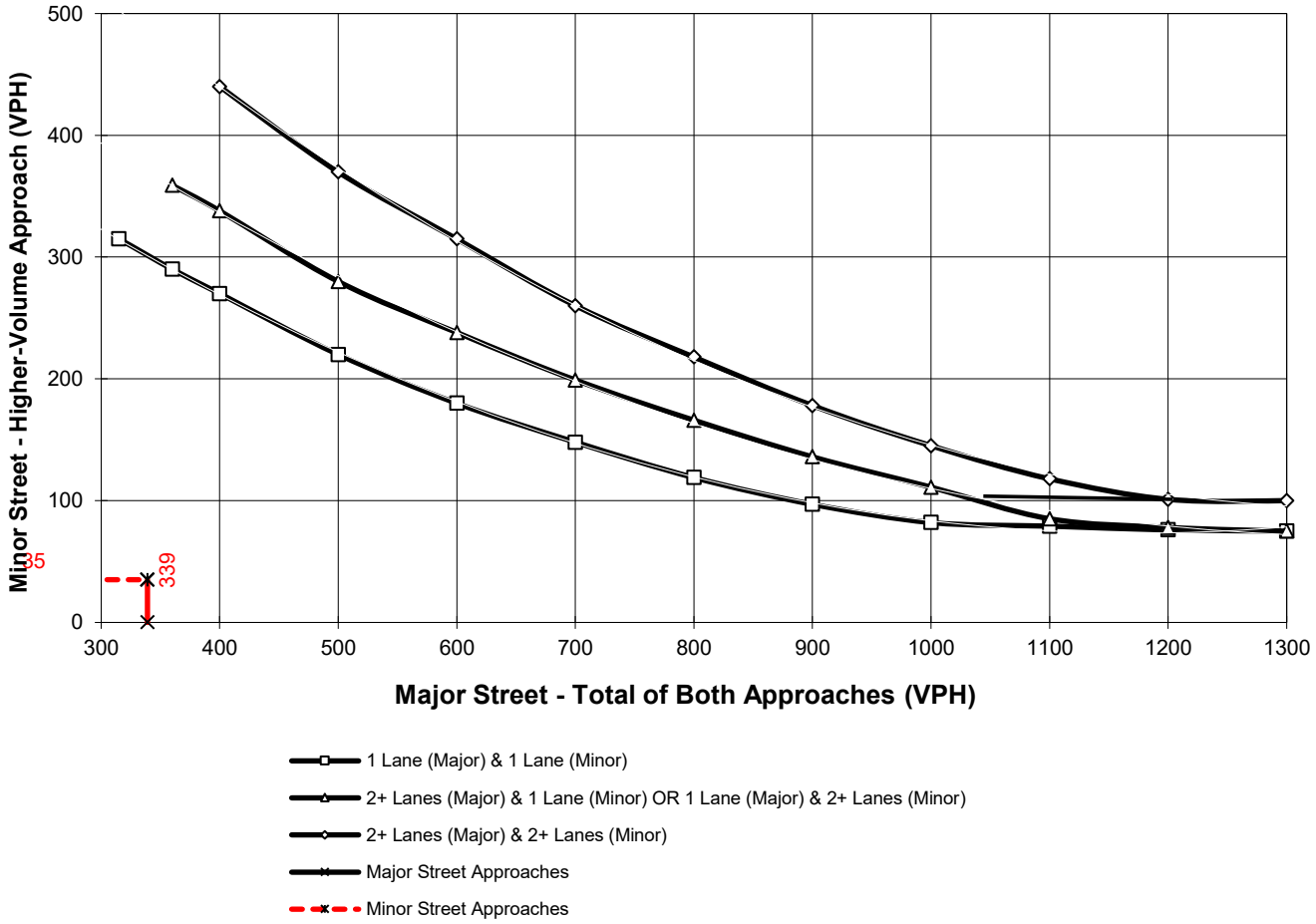
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **339**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Driveway**
High Volume Approach (VPH) = **35**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 8:

OPENING YEAR CUMULATIVE (2026) WITHOUT PROJECT INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	222	13	3	41	15	9
Future Vol, veh/h	222	13	3	41	15	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	274	16	4	51	19	11

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	72	29	0	0	54	0
Stage 1	29	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	934	1052	-	-	1564	-
Stage 1	999	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	923	1052	-	-	1564	-
Mov Cap-2 Maneuver	868	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	969	-	-	-	-	-

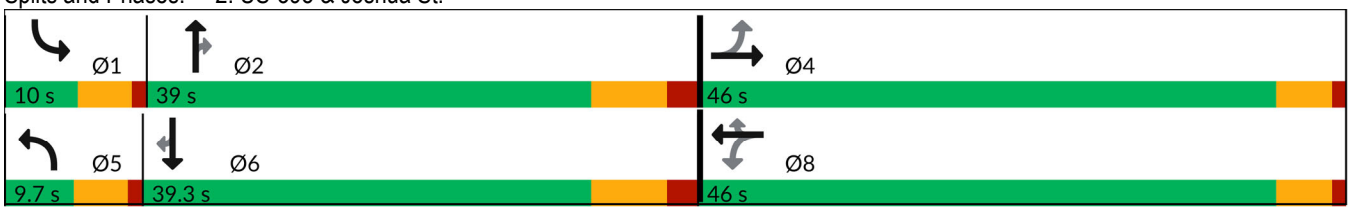
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.12	0	4.59
HCM LOS	B		

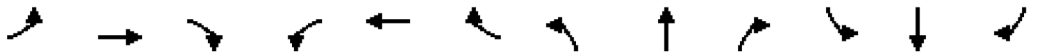
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	877	1564	-
HCM Lane V/C Ratio	-	-	0.331	0.012	-
HCM Ctrl Dly (s/v)	-	-	11.1	7.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	39	46	87	92	658	10	1279	61	317	1014	205
Future Volume (vph)	39	46	87	92	658	10	1279	61	317	1014	205
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	33.5	33.5	39.9	39.9	39.9	5.0	31.5	31.5	5.3	39.6	39.6
Actuated g/C Ratio	0.36	0.36	0.42	0.42	0.42	0.05	0.34	0.34	0.06	0.42	0.42
v/c Ratio	0.10	0.10	0.19	0.13	0.98	0.13	1.22	0.12	3.82	0.77	0.29
Control Delay (s/veh)	16.8	13.5	18.0	16.9	51.6	46.4	138.7	5.1	Error	29.1	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.8	13.5	18.0	16.9	51.6	46.4	138.7	5.1	Error	29.1	4.0
LOS	B	B	B	B	D	D	F	A	F	C	A
Approach Delay (s/veh)		14.8		44.3			132.0			290.4	
Approach LOS		B		D			F			F	

Intersection Summary		
Cycle Length: 95		
Actuated Cycle Length: 93.9		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 3.82		
Intersection Signal Delay (s/veh): 173.4	Intersection LOS: F	
Intersection Capacity Utilization 99.1%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	46	14	87	92	658	10	1279	61	317	1014	205
Future Volume (veh/h)	39	46	14	87	92	658	10	1279	61	317	1014	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	43	51	11	96	101	669	11	1405	54	348	1114	194
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	343	619	134	604	777	658	21	1134	506	90	1279	571
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.01	0.33	0.33	0.06	0.37	0.37
Sat Flow, veh/h	671	1435	309	1286	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	43	0	62	96	101	669	11	1405	54	348	1114	194
Grp Sat Flow(s),veh/h/ln	671	0	1744	1286	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	3.9	0.0	2.0	4.5	3.2	41.0	0.6	31.5	2.3	5.3	28.7	8.7
Cycle Q Clear(g_c), s	7.1	0.0	2.0	6.5	3.2	41.0	0.6	31.5	2.3	5.3	28.7	8.7
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	0	753	604	777	658	21	1134	506	90	1279	571
V/C Ratio(X)	0.13	0.00	0.08	0.16	0.13	1.02	0.51	1.24	0.11	3.85	0.87	0.34
Avail Cap(c_a), veh/h	343	0	753	604	777	658	85	1134	506	90	1279	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	15.9	17.8	16.3	27.0	46.6	31.7	22.0	44.8	27.6	21.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	39.2	13.3	115.2	0.2	1310.1	7.3	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.8	1.3	1.2	20.7	0.3	29.7	0.8	34.9	11.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.5	0.0	15.9	17.9	16.3	66.2	59.9	147.0	22.2	1354.9	34.8	22.1
LnGrp LOS	B		B	B	B	F	E	F	C	F	C	C
Approach Vol, veh/h		105			866			1470			1656	
Approach Delay, s/veh		17.0			55.0			141.7			310.8	
Approach LOS		B			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		46.0	6.0	43.0		46.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		9.1	2.6	30.7		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.9		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		188.5	
HCM 7th LOS		F	

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	355	0	0	732	70	0	0	0	28	0	101
Future Vol, veh/h	69	355	0	0	732	70	0	0	0	28	0	101
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	79	408	0	0	841	80	0	0	0	32	0	116

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	922	0	-	-	-	0		1448	-	882
Stage 1	-	-	-	-	-	-		882	-	-
Stage 2	-	-	-	-	-	-		567	-	-
Critical Hdwy	4.1	-	-	-	-	-		6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-		5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-		3.5	-	3.3
Pot Cap-1 Maneuver	749	-	0	0	-	-		146	0	348
Stage 1	-	-	0	0	-	-		408	0	-
Stage 2	-	-	0	0	-	-		572	0	-
Platoon blocked, %		-			-	-				
Mov Cap-1 Maneuver	749	-	-	-	-	-		131	0	348
Mov Cap-2 Maneuver	-	-	-	-	-	-		259	0	-
Stage 1	-	-	-	-	-	-		365	0	-
Stage 2	-	-	-	-	-	-		572	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.69	0	20.51
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	749	-	-	-	259	348
HCM Lane V/C Ratio	0.106	-	-	-	0.124	0.333
HCM Ctrl Dly (s/v)	10.4	-	-	-	20.9	20.4
HCM Lane LOS	B	-	-	-	C	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4	1.4

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	133	84	78	219	55
Future Vol, veh/h	31	133	84	78	219	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	39	166	105	98	274	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	616	308	343	0	-	0
Stage 1	308	-	-	-	-	-
Stage 2	308	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	458	737	1228	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	416	737	1228	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.2	4.25	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	933	-	643	-	-
HCM Lane V/C Ratio	0.086	-	0.319	-	-
HCM Ctrl Dly (s/v)	8.2	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.4	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	425	437	27	0	0	0	0	11	36	6
Future Vol, veh/h	0	11	425	437	27	0	0	0	0	11	36	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	457	470	29	0	0	0	0	12	39	6

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	469	0	0			981	1438	29
Stage 1	-	-	-	-	-	-			969	969	-
Stage 2	-	-	-	-	-	-			12	469	-
Critical Hdwy	-	-	-	4.1	-	-			6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-			3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1103	-	0			279	134	1052
Stage 1	0	-	-	-	-	0			371	335	-
Stage 2	0	-	-	-	-	0			1016	564	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1103	-	-			158	0	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-			158	0	-
Stage 1	-	-	-	-	-	-			371	0	-
Stage 2	-	-	-	-	-	-			576	0	-

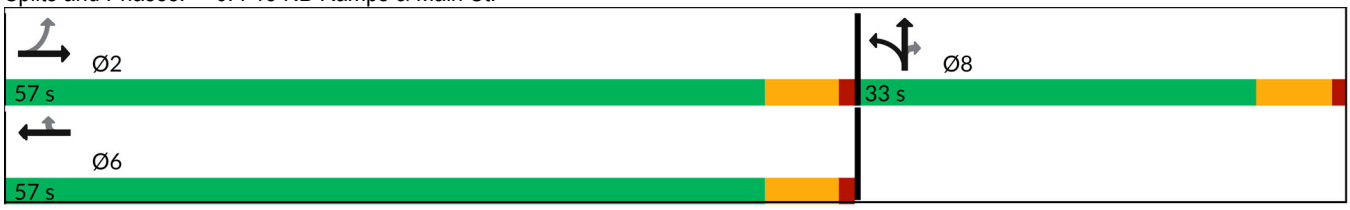
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	10.04	34.7
HCM LOS			D

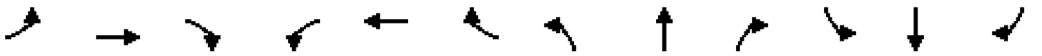
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1086	-	158	1052
HCM Lane V/C Ratio	-	-	0.426	-	0.319	0.006
HCM Ctrl Dly (s/v)	-	-	10.7	0	38.1	8.4
HCM Lane LOS	-	-	B	A	E	A
HCM 95th %tile Q(veh)	-	-	2.2	-	1.3	0

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	44	1053	1111	614	84	2	406
Future Volume (vph)	44	1053	1111	614	84	2	406
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	57.0	57.0	57.0	57.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		29.6	29.6	29.6	13.5	13.5	13.5
Actuated g/C Ratio		0.53	0.53	0.53	0.24	0.24	0.24
v/c Ratio		0.68	0.45	0.58	0.23	0.53	0.53
Control Delay (s/veh)		10.5	8.7	3.1	21.1	18.9	18.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		10.5	8.7	3.1	21.1	18.9	18.8
LOS		B	A	A	C	B	B
Approach Delay (s/veh)		10.5	6.7			19.2	
Approach LOS		B	A			B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 55.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay (s/veh): 9.9	Intersection LOS: A
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1053	328	0	1111	614	84	2	406	0	0	0
Future Volume (veh/h)	44	1053	328	0	1111	614	84	2	406	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1700	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	47	1120	327	0	1182	626	89	0	391			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	111	1952	559	0	2845	883	310	0	584			
Arrive On Green	0.58	0.58	0.58	0.00	0.58	0.58	0.19	0.00	0.19			
Sat Flow, veh/h	61	3372	965	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	493	505	496	0	1182	626	89	0	391			
Grp Sat Flow(s),veh/h/ln	1444	1491	1464	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	11.3	11.3	0.0	7.0	15.3	2.5	0.0	6.2			
Cycle Q Clear(g_c), s	8.3	11.3	11.3	0.0	7.0	15.3	2.5	0.0	6.2			
Prop In Lane	0.10		0.66	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	911	863	848	0	2845	883	310	0	584			
V/C Ratio(X)	0.54	0.59	0.59	0.00	0.42	0.71	0.29	0.00	0.67			
Avail Cap(c_a), veh/h	1371	1455	1429	0	4797	1489	837	0	1577			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.4	7.0	7.0	0.0	6.1	7.9	18.1	0.0	19.6			
Incr Delay (d2), s/veh	0.5	0.6	0.6	0.0	0.1	1.1	0.5	0.0	1.3			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.7	1.9	1.9	0.0	1.2	2.7	0.8	0.0	1.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.9	7.6	7.6	0.0	6.2	8.9	18.6	0.0	20.9			
LnGrp LOS	A	A	A		A	A	B		C			
Approach Vol, veh/h		1494			1808			480				
Approach Delay, s/veh		7.4			7.1			20.5				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		36.2				36.2		16.0				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		51.0				51.0		27.0				
Max Q Clear Time (g_c+I1), s		13.3				17.3		8.2				
Green Ext Time (p_c), s		13.2				12.9		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

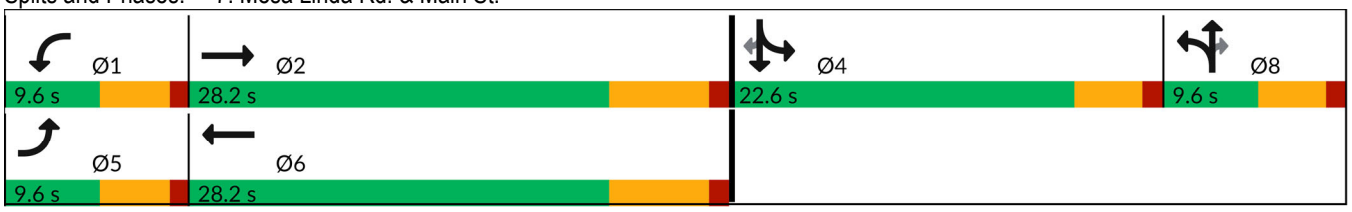
Notes

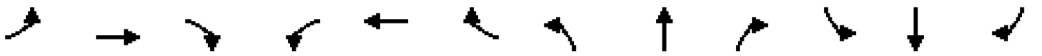
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	13	1017	54	627	1	45	0	13
Future Volume (vph)	13	1017	54	627	1	45	0	13
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.5	18.6	5.5	21.7	5.5	5.5	10.9	10.9
Actuated g/C Ratio	0.11	0.37	0.11	0.43	0.11	0.11	0.21	0.21
v/c Ratio	0.08	0.61	0.34	0.33	0.03	0.14	0.11	0.03
Control Delay (s/veh)	27.7	16.0	32.3	10.7	26.8	0.9	22.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.7	16.0	32.3	10.7	26.8	0.9	22.8	0.1
LOS	C	B	C	B	C	A	C	A
Approach Delay (s/veh)		16.1		12.3	3.3		16.9	
Approach LOS		B		B	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 50.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay (s/veh): 14.4	Intersection LOS: B
Intersection Capacity Utilization 46.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1017	7	54	627	21	4	1	45	37	0	13
Future Volume (veh/h)	13	1017	7	54	627	21	4	1	45	37	0	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	1094	8	58	674	23	4	1	32	40	0	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	29	1605	12	89	1738	59	55	14	61	335	0	298
Arrive On Green	0.02	0.32	0.32	0.05	0.36	0.36	0.04	0.04	0.04	0.20	0.00	0.20
Sat Flow, veh/h	1619	5033	37	1619	4880	166	1385	346	1525	1714	0	1525
Grp Volume(v), veh/h	14	712	390	58	452	245	5	0	32	40	0	10
Grp Sat Flow(s),veh/h/ln	1619	1638	1793	1619	1638	1770	1731	0	1525	1714	0	1525
Q Serve(g_s), s	0.4	9.7	9.7	1.8	5.3	5.3	0.1	0.0	1.1	1.0	0.0	0.3
Cycle Q Clear(g_c), s	0.4	9.7	9.7	1.8	5.3	5.3	0.1	0.0	1.1	1.0	0.0	0.3
Prop In Lane	1.00		0.02	1.00		0.09	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	29	1045	572	89	1167	630	69	0	61	335	0	298
V/C Ratio(X)	0.49	0.68	0.68	0.65	0.39	0.39	0.07	0.00	0.52	0.12	0.00	0.03
Avail Cap(c_a), veh/h	158	1409	771	158	1409	761	169	0	149	603	0	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	15.2	15.2	23.7	12.3	12.3	23.6	0.0	24.1	17.0	0.0	16.7
Incr Delay (d2), s/veh	4.8	0.8	1.5	3.0	0.2	0.4	0.2	0.0	2.6	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.8	3.2	0.7	1.4	1.6	0.1	0.0	0.4	0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	16.0	16.7	26.7	12.5	12.7	23.8	0.0	26.7	17.1	0.0	16.7
LnGrp LOS	C	B	B	C	B	B	C		C	B		B
Approach Vol, veh/h		1116			755			37			50	
Approach Delay, s/veh		16.4			13.7			26.3			17.0	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	22.5		14.6	5.5	24.4		6.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	3.8	11.7		3.0	2.4	7.3		3.1				
Green Ext Time (p_c), s	0.0	4.6		0.1	0.0	3.4		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	15.5	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	499	30	83	90	34	54
Future Vol, veh/h	499	30	83	90	34	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	594	36	99	107	40	64

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	630	0	899	594
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	962	-	312	509
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	962	-	280	509
Mov Cap-2 Maneuver	-	-	-	-	404	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4.4	15.06
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	462	-	-	962	-
HCM Lane V/C Ratio	0.227	-	-	0.103	-
HCM Ctrl Dly (s/v)	15.1	-	-	9.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	19	4	43	163	5
Future Vol, veh/h	0	19	4	43	163	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	23	5	53	201	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	264	201	207	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	729	845	1376	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	727	845	1376	-	-	-
Mov Cap-2 Maneuver	731	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.38	0.65	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1376	-	845	-	-
HCM Lane V/C Ratio	0.004	-	0.028	-	-
HCM Ctrl Dly (s/v)	7.6	-	9.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	21	11	68	29	3
Future Vol, veh/h	26	21	11	68	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	46	37	19	119	51	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	183	79	0	0	139	0
Stage 1	79	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	802	987	-	-	1457	-
Stage 1	949	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	774	987	-	-	1457	-
Mov Cap-2 Maneuver	768	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	882	-	-	-	-	-

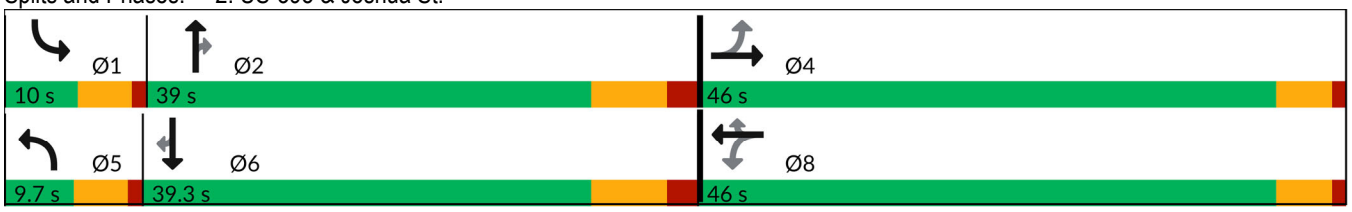
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.68	0	6.85
HCM LOS	A		

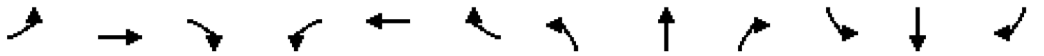
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	852	1457	-
HCM Lane V/C Ratio	-	-	0.097	0.035	-
HCM Ctrl Dly (s/v)	-	-	9.7	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	61	77	77	44	470	19	1324	119	398	1360	67
Future Volume (vph)	61	77	77	44	470	19	1324	119	398	1360	67
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	22.3	22.3	24.1	24.1	24.1	5.1	32.0	32.0	5.4	38.7	38.7
Actuated g/C Ratio	0.28	0.28	0.31	0.31	0.31	0.06	0.41	0.41	0.07	0.49	0.49
v/c Ratio	0.18	0.17	0.22	0.08	0.87	0.19	1.01	0.18	3.81	0.85	0.09
Control Delay (s/veh)	19.7	18.4	20.4	18.0	33.1	44.2	52.2	4.9	Error	28.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.7	18.4	20.4	18.0	33.1	44.2	52.2	4.9	Error	28.6	5.1
LOS	B	B	C	B	C	D	D	A	F	C	A
Approach Delay (s/veh)		19.0		30.4			48.3			305.6	
Approach LOS		B		C			D			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 78.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.81	
Intersection Signal Delay (s/veh): 161.4	Intersection LOS: F
Intersection Capacity Utilization 89.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	77	5	77	44	470	19	1324	119	398	1360	67
Future Volume (veh/h)	61	77	5	77	44	470	19	1324	119	398	1360	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	64	81	3	81	46	463	20	1394	97	419	1432	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	356	569	21	463	594	503	36	1337	596	106	1485	663
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.02	0.39	0.39	0.07	0.43	0.43
Sat Flow, veh/h	855	1725	64	1261	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	64	0	84	81	46	463	20	1394	97	419	1432	60
Grp Sat Flow(s),veh/h/ln	855	0	1789	1261	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	4.5	0.0	2.7	3.9	1.4	23.5	1.0	31.5	3.3	5.3	32.8	1.9
Cycle Q Clear(g_c), s	5.9	0.0	2.7	6.6	1.4	23.5	1.0	31.5	3.3	5.3	32.8	1.9
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	0	590	463	594	503	36	1337	596	106	1485	663
V/C Ratio(X)	0.18	0.00	0.14	0.17	0.08	0.92	0.55	1.04	0.16	3.93	0.96	0.09
Avail Cap(c_a), veh/h	509	0	910	689	916	776	100	1337	596	106	1485	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	19.0	21.3	18.6	26.0	39.0	24.5	16.0	37.6	22.2	13.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	8.6	9.4	36.5	0.3	1342.8	15.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.0	1.1	0.6	9.0	0.5	17.3	1.0	41.6	13.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.7	0.0	19.0	21.4	18.6	34.6	48.3	61.0	16.2	1380.4	38.0	13.5
LnGrp LOS	C		B	C	B	C	D	F	B	F	D	B
Approach Vol, veh/h		148			590			1511			1911	
Approach Delay, s/veh		19.7			31.5			58.0			331.6	
Approach LOS		B			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		31.6	6.5	42.5		31.6				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		7.9	3.0	34.8		25.5				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		1.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		178.5	
HCM 7th LOS		F	

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	484	0	0	427	102	0	0	0	31	0	164
Future Vol, veh/h	110	484	0	0	427	102	0	0	0	31	0	164
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	520	0	0	459	110	0	0	0	33	0	176

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	570	0	-	-	-	0		1272	-	515
Stage 1	-	-	-	-	-	-		515	-	-
Stage 2	-	-	-	-	-	-		757	-	-
Critical Hdwy	4.1	-	-	-	-	-		6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-		5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-		3.5	-	3.3
Pot Cap-1 Maneuver	1013	-	0	0	-	-		187	0	564
Stage 1	-	-	0	0	-	-		604	0	-
Stage 2	-	-	0	0	-	-		467	0	-
Platoon blocked, %		-			-	-				
Mov Cap-1 Maneuver	1012	-	-	-	-	-		165	0	563
Mov Cap-2 Maneuver	-	-	-	-	-	-		302	0	-
Stage 1	-	-	-	-	-	-		533	0	-
Stage 2	-	-	-	-	-	-		466	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.67	0	14.94
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1012	-	-	-	302	563
HCM Lane V/C Ratio	0.117	-	-	-	0.111	0.313
HCM Ctrl Dly (s/v)	9	-	-	-	18.4	14.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4	1.3

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	48	62	93	93	26
Future Vol, veh/h	43	48	62	93	93	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	48	53	69	103	103	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	359	118	132	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	644	940	1465	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	612	940	1465	-	-	-
Mov Cap-2 Maneuver	612	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	804	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.55	3.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	720	-	750	-	-
HCM Lane V/C Ratio	0.047	-	0.135	-	-
HCM Ctrl Dly (s/v)	7.6	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	40	78	140	0	0	0	0	8	7	0
Future Vol, veh/h	0	9	40	78	140	0	0	0	0	8	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	10	44	86	154	0	0	0	0	9	8	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	54	0	0	335	379	154
Stage 1	-	-	-	-	-	-	325	325	-
Stage 2	-	-	-	-	-	-	10	54	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1564	-	0	664	556	897
Stage 1	0	-	-	-	-	0	737	652	-
Stage 2	0	-	-	-	-	0	1018	854	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1564	-	-	624	0	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	0	-
Stage 1	-	-	-	-	-	-	737	0	-
Stage 2	-	-	-	-	-	-	957	0	-

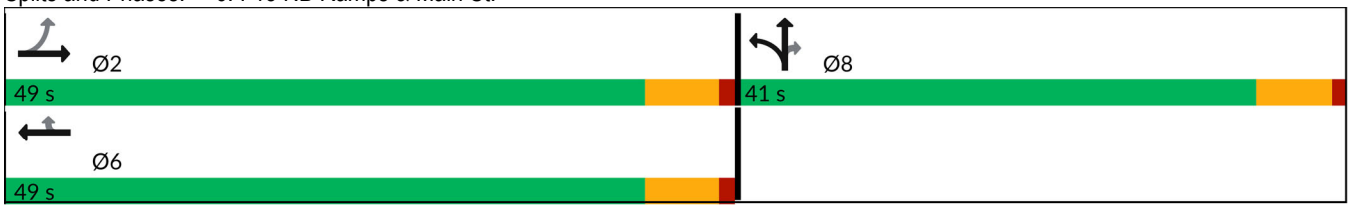
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	2.66	10.92
HCM LOS			B

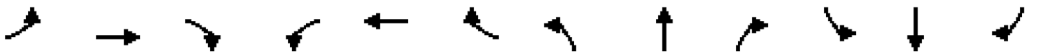
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	644	-	624	-
HCM Lane V/C Ratio	-	-	0.055	-	0.026	-
HCM Ctrl Dly (s/v)	-	-	7.4	0	10.9	0
HCM Lane LOS	-	-	A	A	B	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	16	1394	1244	456	182	4	718
Future Volume (vph)	16	1394	1244	456	182	4	718
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	49.0	49.0	49.0	49.0	41.0	41.0	41.0
Total Split (%)	54.4%	54.4%	54.4%	54.4%	45.6%	45.6%	45.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		38.1	38.1	38.1	25.5	25.5	25.5
Actuated g/C Ratio		0.50	0.50	0.50	0.33	0.33	0.33
v/c Ratio		0.79	0.52	0.47	0.35	0.75	0.72
Control Delay (s/veh)		19.3	14.6	3.1	21.5	32.1	29.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		19.3	14.6	3.1	21.5	32.1	29.4
LOS		B	B	A	C	C	C
Approach Delay (s/veh)		19.3	11.5			28.9	
Approach LOS		B	B			C	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 76.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 18.2		Intersection LOS: B	
Intersection Capacity Utilization 96.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1394	311	0	1244	456	182	4	718	0	0	0
Future Volume (veh/h)	16	1394	311	0	1244	456	182	4	718	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1700	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	16	1437	321	0	1282	470	188	0	743			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	64	1951	432	0	2500	776	498	0	939			
Arrive On Green	0.51	0.51	0.51	0.00	0.51	0.51	0.31	0.00	0.31			
Sat Flow, veh/h	14	3835	849	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	651	561	562	0	1282	470	188	0	743			
Grp Sat Flow(s),veh/h/ln	1722	1491	1485	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	19.4	19.5	0.0	11.3	14.3	5.9	0.0	14.6			
Cycle Q Clear(g_c), s	18.2	19.4	19.5	0.0	11.3	14.3	5.9	0.0	14.6			
Prop In Lane	0.02		0.57	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	933	758	756	0	2500	776	498	0	939			
V/C Ratio(X)	0.70	0.74	0.74	0.00	0.51	0.61	0.38	0.00	0.79			
Avail Cap(c_a), veh/h	1169	980	976	0	3231	1003	866	0	1633			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.4	12.7	12.7	0.0	10.7	11.4	17.7	0.0	20.7			
Incr Delay (d2), s/veh	1.3	2.2	2.3	0.0	0.2	0.8	0.5	0.0	1.5			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.6	5.1	5.1	0.0	3.0	3.7	2.0	0.0	4.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.7	14.9	15.0	0.0	10.8	12.2	18.2	0.0	22.3			
LnGrp LOS	B	B	B		B	B	B		C			
Approach Vol, veh/h		1774			1752			931				
Approach Delay, s/veh		14.5			11.2			21.4				
Approach LOS		B			B			C				

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		39.3				39.3		26.1				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		43.0				43.0		35.0				
Max Q Clear Time (g_c+I1), s		21.5				16.3		16.6				
Green Ext Time (p_c), s		11.7				11.7		3.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.6
HCM 7th LOS	B

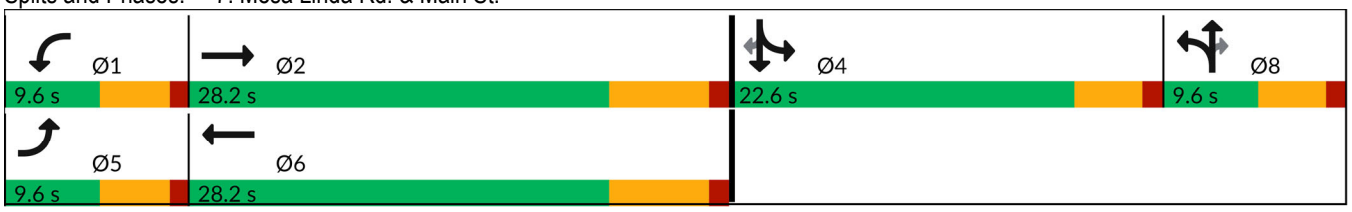
Notes

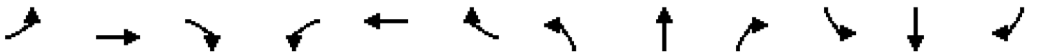
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	881	68	839	4	159	2	4
Future Volume (vph)	15	881	68	839	4	159	2	4
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	18.6	5.1	24.1	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.33	0.09	0.42	0.09	0.09	0.18	0.18
v/c Ratio	0.13	0.66	0.56	0.50	0.29	0.60	0.08	0.01
Control Delay (s/veh)	28.5	18.7	44.9	13.0	31.9	14.4	22.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	18.7	44.9	13.0	31.9	14.4	22.8	0.0
LOS	C	B	D	B	C	B	C	A
Approach Delay (s/veh)		18.9		15.3	17.8		18.8	
Approach LOS		B		B	B		B	

Intersection Summary			
Cycle Length: 70			
Actuated Cycle Length: 56.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 17.1		Intersection LOS: B	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	881	17	68	839	35	34	4	159	19	2	4
Future Volume (veh/h)	15	881	17	68	839	35	34	4	159	19	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	1036	19	80	987	40	40	5	126	22	2	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	1485	27	104	1653	67	139	17	139	287	26	278
Arrive On Green	0.02	0.30	0.30	0.06	0.34	0.34	0.09	0.09	0.09	0.18	0.18	0.18
Sat Flow, veh/h	1619	4969	91	1619	4845	196	1532	191	1525	1578	143	1525
Grp Volume(v), veh/h	18	683	372	80	667	360	45	0	126	24	0	3
Grp Sat Flow(s),veh/h/ln	1619	1638	1784	1619	1638	1765	1723	0	1525	1721	0	1525
Q Serve(g_s), s	0.6	10.1	10.2	2.7	9.3	9.3	1.3	0.0	4.5	0.6	0.0	0.1
Cycle Q Clear(g_c), s	0.6	10.1	10.2	2.7	9.3	9.3	1.3	0.0	4.5	0.6	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.11	0.89		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	35	979	533	104	1118	602	157	0	139	313	0	278
V/C Ratio(X)	0.51	0.70	0.70	0.77	0.60	0.60	0.29	0.00	0.91	0.08	0.00	0.01
Avail Cap(c_a), veh/h	147	1312	714	147	1312	707	157	0	139	564	0	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	17.1	17.1	25.3	15.0	15.0	23.3	0.0	24.7	18.6	0.0	18.4
Incr Delay (d2), s/veh	4.1	1.0	1.9	8.5	0.5	1.0	0.4	0.0	48.7	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.1	3.5	1.1	2.7	3.0	0.5	0.0	3.2	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	18.1	19.0	33.9	15.5	16.0	23.7	0.0	73.5	18.7	0.0	18.4
LnGrp LOS	C	B	B	C	B	B	C		E	B		B
Approach Vol, veh/h		1073			1107			171			27	
Approach Delay, s/veh		18.6			17.0			60.4			18.7	
Approach LOS		B			B			E			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	22.6		14.6	5.8	24.9		9.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	4.7	12.2		2.6	2.6	11.3		6.5				
Green Ext Time (p_c), s	0.0	4.3		0.1	0.0	4.4		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	20.9
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	335	14	31	444	30	59
Future Vol, veh/h	335	14	31	444	30	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	465	19	43	617	42	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	485	0	1168	465
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1089	-	216	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1089	-	207	601
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	475	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.55	15.16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	-	-	1089	-
HCM Lane V/C Ratio	0.259	-	-	0.04	-
HCM Ctrl Dly (s/v)	15.2	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	9	1	38	52	5
Future Vol, veh/h	3	9	1	38	52	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	10	1	40	55	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	98	55	61	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	906	1017	1556	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	905	1017	1556	-	-	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	985	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.75	0.19	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1556	-	973	-	-
HCM Lane V/C Ratio	0.001	-	0.013	-	-
HCM Ctrl Dly (s/v)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

APPENDIX 9:

OPENING YEAR CUMULATIVE (2026) WITH PROJECT INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	11.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	352	13	3	70	15	9
Future Vol, veh/h	352	13	3	70	15	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	435	16	4	86	19	11

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	90	47	0	0	90	0
Stage 1	47	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	911	1028	-	-	1518	-
Stage 1	981	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	900	1028	-	-	1518	-
Mov Cap-2 Maneuver	855	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	968	-	-	-	-	-

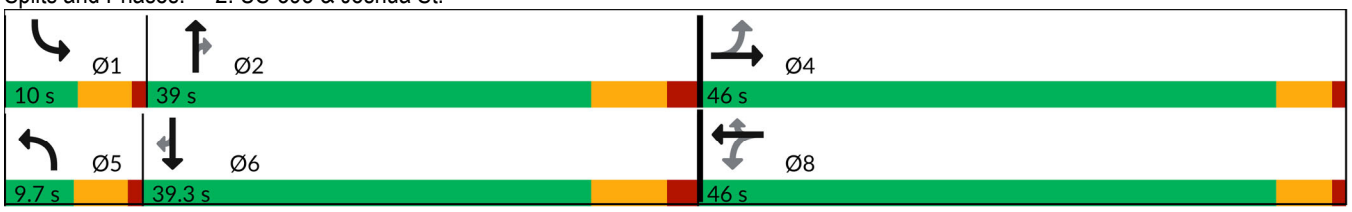
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.69	0	4.63
HCM LOS	B		

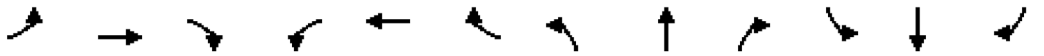
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	861	1518	-
HCM Lane V/C Ratio	-	-	0.524	0.012	-
HCM Ctrl Dly (s/v)	-	-	13.7	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	3.1	0	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	47	66	87	176	658	19	1279	61	317	1014	241
Future Volume (vph)	47	66	87	176	658	19	1279	61	317	1014	241
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	33.5	33.5	39.9	39.9	39.9	5.0	31.5	31.5	5.3	37.7	37.7
Actuated g/C Ratio	0.36	0.36	0.42	0.42	0.42	0.05	0.34	0.34	0.06	0.40	0.40
v/c Ratio	0.14	0.14	0.19	0.25	0.98	0.24	1.22	0.12	3.82	0.81	0.34
Control Delay (s/veh)	17.4	14.1	18.1	18.4	51.6	50.4	138.7	5.1	Error	32.6	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.4	14.1	18.1	18.4	51.6	50.4	138.7	5.1	Error	32.6	4.4
LOS	B	B	B	B	D	D	F	A	F	C	A
Approach Delay (s/veh)		15.3		42.1			131.5			286.0	
Approach LOS		B		D			F			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 93.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.82	
Intersection Signal Delay (s/veh): 168.0	Intersection LOS: F
Intersection Capacity Utilization 99.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	66	16	87	176	658	19	1279	61	317	1014	241
Future Volume (veh/h)	47	66	16	87	176	658	19	1279	61	317	1014	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	52	73	14	96	193	669	21	1405	54	348	1114	234
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	299	633	121	581	777	658	36	1134	506	90	1248	557
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.02	0.33	0.33	0.06	0.36	0.36
Sat Flow, veh/h	615	1468	282	1257	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	52	0	87	96	193	669	21	1405	54	348	1114	234
Grp Sat Flow(s),veh/h/ln	615	0	1749	1257	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	5.6	0.0	2.8	4.7	6.5	41.0	1.2	31.5	2.3	5.3	29.1	10.9
Cycle Q Clear(g_c), s	12.1	0.0	2.8	7.5	6.5	41.0	1.2	31.5	2.3	5.3	29.1	10.9
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	299	0	755	581	777	658	36	1134	506	90	1248	557
V/C Ratio(X)	0.17	0.00	0.12	0.17	0.25	1.02	0.58	1.24	0.11	3.85	0.89	0.42
Avail Cap(c_a), veh/h	299	0	755	581	777	658	85	1134	506	90	1248	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	16.2	18.4	17.2	27.0	46.0	31.7	22.0	44.8	28.4	22.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.1	39.2	10.4	115.2	0.2	1310.1	8.9	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.1	1.3	2.5	20.7	0.6	29.7	0.8	34.9	12.1	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	0.0	16.2	18.5	17.3	66.2	56.4	147.0	22.2	1354.9	37.3	23.7
LnGrp LOS	C		B	B	B	F	E	F	C	F	D	C
Approach Vol, veh/h		139			958			1480			1696	
Approach Delay, s/veh		18.0			51.5			141.1			305.8	
Approach LOS		B			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		46.0	6.8	42.2		46.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		14.1	3.2	31.1		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	0.6		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		182.4	
HCM 7th LOS		F	

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	375	0	0	816	70	0	0	0	28	0	101
Future Vol, veh/h	69	375	0	0	816	70	0	0	0	28	0	101
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	79	431	0	0	938	80	0	0	0	32	0	116

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	1018	0	-	-	-	0			1568	-	978
Stage 1	-	-	-	-	-	-			978	-	-
Stage 2	-	-	-	-	-	-			590	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	689	-	0	0	-	-			123	0	306
Stage 1	-	-	0	0	-	-			368	0	-
Stage 2	-	-	0	0	-	-			558	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	689	-	-	-	-	-			109	0	306
Mov Cap-2 Maneuver	-	-	-	-	-	-			233	0	-
Stage 1	-	-	-	-	-	-			325	0	-
Stage 2	-	-	-	-	-	-			558	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.69	0	23.56
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	689	-	-	-	233	306
HCM Lane V/C Ratio	0.115	-	-	-	0.138	0.379
HCM Ctrl Dly (s/v)	10.9	-	-	-	22.9	23.7
HCM Lane LOS	B	-	-	-	C	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5	1.7

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	135	93	78	219	64
Future Vol, veh/h	33	135	93	78	219	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	169	116	98	274	80

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	644	314	354	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	441	731	1216	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	731	1216	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.61	4.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	979	-	627	-	-
HCM Lane V/C Ratio	0.096	-	0.335	-	-
HCM Ctrl Dly (s/v)	8.3	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.5	-	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	11	425	437	27	0	0	0	0	11	36	6
Future Vol, veh/h	0	11	425	437	27	0	0	0	0	11	36	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	457	470	29	0	0	0	0	12	39	6

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	469	0	0			981	1438	29
Stage 1	-	-	-	-	-	-			969	969	-
Stage 2	-	-	-	-	-	-			12	469	-
Critical Hdwy	-	-	-	4.1	-	-			6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-			3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1103	-	0			279	134	1052
Stage 1	0	-	-	-	-	0			371	335	-
Stage 2	0	-	-	-	-	0			1016	564	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1103	-	-			158	0	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-			158	0	-
Stage 1	-	-	-	-	-	-			371	0	-
Stage 2	-	-	-	-	-	-			576	0	-

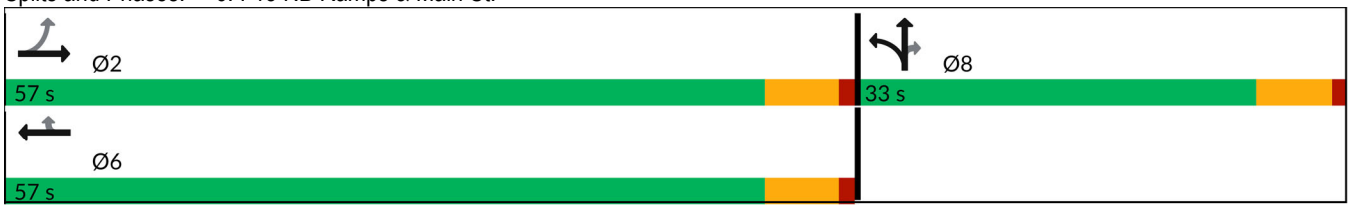
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	10.04	34.7
HCM LOS			D

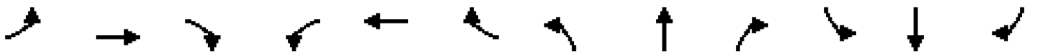
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1086	-	158	1052
HCM Lane V/C Ratio	-	-	0.426	-	0.319	0.006
HCM Ctrl Dly (s/v)	-	-	10.7	0	38.1	8.4
HCM Lane LOS	-	-	B	A	E	A
HCM 95th %tile Q(veh)	-	-	2.2	-	1.3	0

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	44	1055	1120	614	84	2	406
Future Volume (vph)	44	1055	1120	614	84	2	406
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	57.0	57.0	57.0	57.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		29.6	29.6	29.6	13.5	13.5	13.5
Actuated g/C Ratio		0.53	0.53	0.53	0.24	0.24	0.24
v/c Ratio		0.68	0.46	0.58	0.23	0.53	0.53
Control Delay (s/veh)		10.5	8.7	3.1	21.1	18.9	18.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		10.5	8.7	3.1	21.1	18.9	18.8
LOS		B	A	A	C	B	B
Approach Delay (s/veh)		10.5	6.7			19.2	
Approach LOS		B	A			B	

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 55.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 9.9		Intersection LOS: A	
Intersection Capacity Utilization 94.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1055	328	0	1120	614	84	2	406	0	0	0
Future Volume (veh/h)	44	1055	328	0	1120	614	84	2	406	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1700	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	47	1122	327	0	1191	626	89	0	391			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	111	1955	559	0	2849	884	309	0	583			
Arrive On Green	0.58	0.58	0.58	0.00	0.58	0.58	0.19	0.00	0.19			
Sat Flow, veh/h	61	3372	964	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	493	506	497	0	1191	626	89	0	391			
Grp Sat Flow(s),veh/h/ln	1441	1491	1465	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	11.3	11.3	0.0	7.0	15.3	2.5	0.0	6.2			
Cycle Q Clear(g_c), s	8.3	11.3	11.3	0.0	7.0	15.3	2.5	0.0	6.2			
Prop In Lane	0.10		0.66	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	911	864	849	0	2849	884	309	0	583			
V/C Ratio(X)	0.54	0.59	0.59	0.00	0.42	0.71	0.29	0.00	0.67			
Avail Cap(c_a), veh/h	1366	1452	1427	0	4787	1486	835	0	1573			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.4	7.0	7.0	0.0	6.1	7.8	18.1	0.0	19.6			
Incr Delay (d2), s/veh	0.5	0.6	0.6	0.0	0.1	1.1	0.5	0.0	1.3			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.7	1.9	1.9	0.0	1.2	2.7	0.8	0.0	1.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.9	7.6	7.6	0.0	6.2	8.9	18.6	0.0	21.0			
LnGrp LOS	A	A	A		A	A	B		C			
Approach Vol, veh/h		1496			1817			480				
Approach Delay, s/veh		7.4			7.1			20.6				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		36.4				36.4		16.0				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		51.0				51.0		27.0				
Max Q Clear Time (g_c+I1), s		13.3				17.3		8.2				
Green Ext Time (p_c), s		13.2				13.0		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

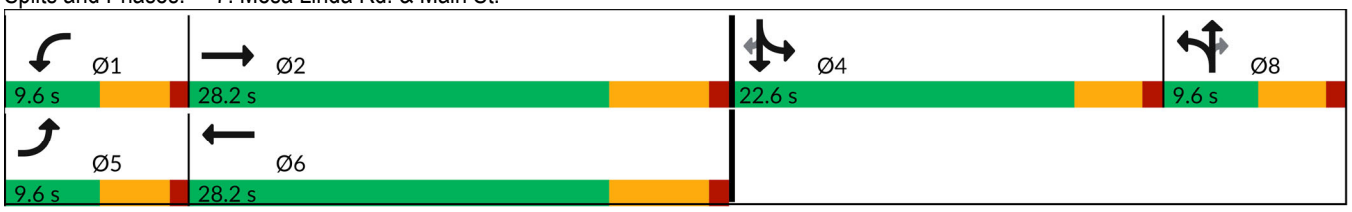
Notes

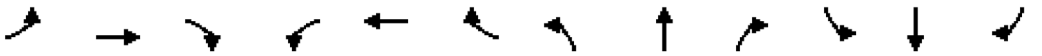
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	13	1019	54	636	1	45	0	13
Future Volume (vph)	13	1019	54	636	1	45	0	13
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.5	18.6	5.5	21.7	5.5	5.5	10.9	10.9
Actuated g/C Ratio	0.11	0.37	0.11	0.43	0.11	0.11	0.21	0.21
v/c Ratio	0.08	0.61	0.34	0.34	0.03	0.14	0.11	0.03
Control Delay (s/veh)	27.7	16.0	32.3	10.7	26.8	0.9	22.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.7	16.0	32.3	10.7	26.8	0.9	22.8	0.1
LOS	C	B	C	B	C	A	C	A
Approach Delay (s/veh)		16.2		12.3	3.3		16.9	
Approach LOS		B		B	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 50.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay (s/veh): 14.4	Intersection LOS: B
Intersection Capacity Utilization 46.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1019	7	54	636	21	4	1	45	37	0	13
Future Volume (veh/h)	13	1019	7	54	636	21	4	1	45	37	0	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	14	1096	8	58	684	23	4	1	32	40	0	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	29	1606	12	89	1740	58	55	14	61	335	0	298
Arrive On Green	0.02	0.32	0.32	0.05	0.36	0.36	0.04	0.04	0.04	0.20	0.00	0.20
Sat Flow, veh/h	1619	5033	37	1619	4883	164	1385	346	1525	1714	0	1525
Grp Volume(v), veh/h	14	713	391	58	458	249	5	0	32	40	0	10
Grp Sat Flow(s),veh/h/ln	1619	1638	1793	1619	1638	1771	1731	0	1525	1714	0	1525
Q Serve(g_s), s	0.4	9.7	9.7	1.8	5.4	5.4	0.1	0.0	1.1	1.0	0.0	0.3
Cycle Q Clear(g_c), s	0.4	9.7	9.7	1.8	5.4	5.4	0.1	0.0	1.1	1.0	0.0	0.3
Prop In Lane	1.00		0.02	1.00		0.09	0.80		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	29	1046	572	89	1168	631	69	0	61	335	0	298
V/C Ratio(X)	0.49	0.68	0.68	0.65	0.39	0.39	0.07	0.00	0.52	0.12	0.00	0.03
Avail Cap(c_a), veh/h	158	1408	771	158	1408	761	169	0	149	603	0	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	15.2	15.2	23.7	12.3	12.3	23.7	0.0	24.1	17.0	0.0	16.7
Incr Delay (d2), s/veh	4.8	0.8	1.5	3.0	0.2	0.4	0.2	0.0	2.6	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.8	3.2	0.7	1.5	1.6	0.1	0.0	0.4	0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	16.0	16.7	26.7	12.5	12.7	23.8	0.0	26.7	17.1	0.0	16.7
LnGrp LOS	C	B	B	C	B	B	C		C	B		B
Approach Vol, veh/h		1118			765			37			50	
Approach Delay, s/veh		16.4			13.7			26.3			17.0	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	22.5		14.6	5.5	24.4		6.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	3.8	11.7		3.0	2.4	7.4		3.1				
Green Ext Time (p_c), s	0.0	4.6		0.1	0.0	3.4		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	15.6	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	499	30	83	90	34	54
Future Vol, veh/h	499	30	83	90	34	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	594	36	99	107	40	64

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	630	0	899	594
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	962	-	312	509
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	962	-	280	509
Mov Cap-2 Maneuver	-	-	-	-	404	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4.4	15.06
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	462	-	-	962	-
HCM Lane V/C Ratio	0.227	-	-	0.103	-
HCM Ctrl Dly (s/v)	15.1	-	-	9.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	28	35	105	175	28
Future Vol, veh/h	7	28	35	105	175	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	35	43	130	216	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	432	216	251	0	-	0
Stage 1	216	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	584	829	1327	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	565	829	1327	-	-	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	798	-	-	-	-	-
Stage 2	825	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.89	1.95	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1327	-	779	-	-
HCM Lane V/C Ratio	0.033	-	0.055	-	-
HCM Ctrl Dly (s/v)	7.8	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	21	11	204	29	3
Future Vol, veh/h	68	21	11	204	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	119	37	19	358	51	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	303	198	0	0	377	0
Stage 1	198	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	682	848	-	-	1192	-
Stage 1	840	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	653	848	-	-	1192	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	875	-	-	-	-	-

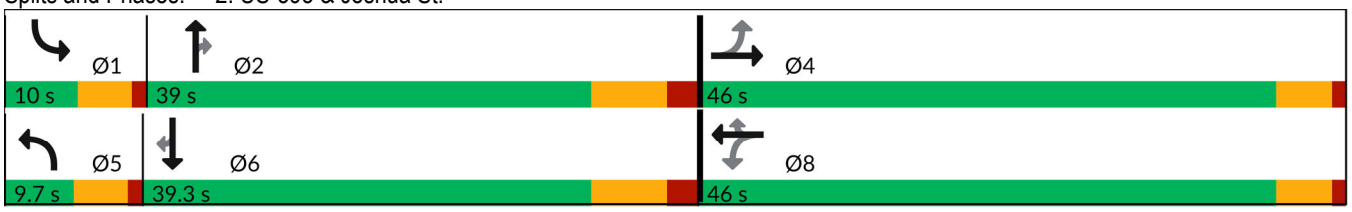
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.37	0	7.39
HCM LOS	B		

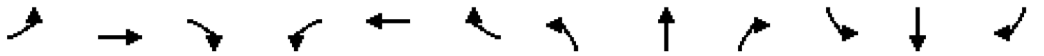
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	721	1192	-
HCM Lane V/C Ratio	-	-	0.217	0.043	-
HCM Ctrl Dly (s/v)	-	-	11.4	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	99	165	77	72	470	22	1324	119	398	1360	78
Future Volume (vph)	99	165	77	72	470	22	1324	119	398	1360	78
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	24.1	24.1	24.1	24.1	24.1	5.1	32.0	32.0	5.4	38.7	38.7
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.06	0.41	0.41	0.07	0.49	0.49
v/c Ratio	0.28	0.35	0.27	0.14	0.87	0.22	1.01	0.18	3.81	0.85	0.10
Control Delay (s/veh)	21.5	21.2	21.5	18.8	33.1	45.0	52.2	4.9	Error	28.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.5	21.2	21.5	18.8	33.1	45.0	52.2	4.9	Error	28.6	6.1
LOS	C	C	C	B	C	D	D	A	F	C	A
Approach Delay (s/veh)		21.3		30.0			48.3			303.9	
Approach LOS		C		C			D			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 78.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.81	
Intersection Signal Delay (s/veh): 155.6	Intersection LOS: F
Intersection Capacity Utilization 96.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	165	15	77	72	470	22	1324	119	398	1360	78
Future Volume (veh/h)	99	165	15	77	72	470	22	1324	119	398	1360	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	104	174	14	81	76	463	23	1394	97	419	1432	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	340	544	44	378	596	505	40	1335	595	106	1474	658
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.02	0.39	0.39	0.07	0.43	0.43
Sat Flow, veh/h	831	1644	132	1147	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	104	0	188	81	76	463	23	1394	97	419	1432	71
Grp Sat Flow(s),veh/h/ln	831	0	1776	1147	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	8.1	0.0	6.4	4.6	2.4	23.5	1.1	31.5	3.3	5.3	33.1	2.2
Cycle Q Clear(g_c), s	10.4	0.0	6.4	11.0	2.4	23.5	1.1	31.5	3.3	5.3	33.1	2.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	0	588	378	596	505	40	1335	595	106	1474	658
V/C Ratio(X)	0.31	0.00	0.32	0.21	0.13	0.92	0.57	1.04	0.16	3.94	0.97	0.11
Avail Cap(c_a), veh/h	487	0	902	581	915	775	100	1335	595	106	1474	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	0.0	20.2	24.3	18.9	25.9	38.9	24.6	16.0	37.7	22.5	13.7
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.1	0.0	8.4	9.0	37.0	0.3	1345.5	17.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.5	1.2	0.9	8.9	0.5	17.4	1.0	41.7	14.3	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.7	0.0	20.3	24.4	18.9	34.3	47.9	61.6	16.3	1383.2	39.7	13.9
LnGrp LOS	C		C	C	B	C	D	F	B	F	D	B
Approach Vol, veh/h		292			620			1514			1922	
Approach Delay, s/veh		21.2			31.1			58.5			331.6	
Approach LOS		C			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		31.7	6.7	42.3		31.7				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		12.4	3.1	35.1		25.5				
Green Ext Time (p_c), s	0.0	0.0		1.0	0.0	0.0		1.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		172.8	
HCM 7th LOS		F	

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	572	0	0	455	102	0	0	0	31	0	164
Future Vol, veh/h	110	572	0	0	455	102	0	0	0	31	0	164
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	615	0	0	489	110	0	0	0	33	0	176

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	600	0	-	-	-	0			1397	-	545
Stage 1	-	-	-	-	-	-			545	-	-
Stage 2	-	-	-	-	-	-			852	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	987	-	0	0	-	-			157	0	542
Stage 1	-	-	0	0	-	-			585	0	-
Stage 2	-	-	0	0	-	-			422	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	986	-	-	-	-	-			138	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			273	0	-
Stage 1	-	-	-	-	-	-			514	0	-
Stage 2	-	-	-	-	-	-			421	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.48	0	15.64
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	986	-	-	-	273	542
HCM Lane V/C Ratio	0.12	-	-	-	0.122	0.326
HCM Ctrl Dly (s/v)	9.1	-	-	-	20	14.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4	1.4

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	58	65	93	93	29
Future Vol, veh/h	53	58	65	93	93	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	59	64	72	103	103	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	367	119	136	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	637	938	1461	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	603	938	1461	-	-	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.82	3.12	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	741	-	741	-	-
HCM Lane V/C Ratio	0.049	-	0.166	-	-
HCM Ctrl Dly (s/v)	7.6	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	9	40	78	140	0	0	0	0	8	7	0
Future Vol, veh/h	0	9	40	78	140	0	0	0	0	8	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	10	44	86	154	0	0	0	0	9	8	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	54	0	0	335	379	154
Stage 1	-	-	-	-	-	-	325	325	-
Stage 2	-	-	-	-	-	-	10	54	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1564	-	0	664	556	897
Stage 1	0	-	-	-	-	0	737	652	-
Stage 2	0	-	-	-	-	0	1018	854	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1564	-	-	624	0	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	0	-
Stage 1	-	-	-	-	-	-	737	0	-
Stage 2	-	-	-	-	-	-	957	0	-

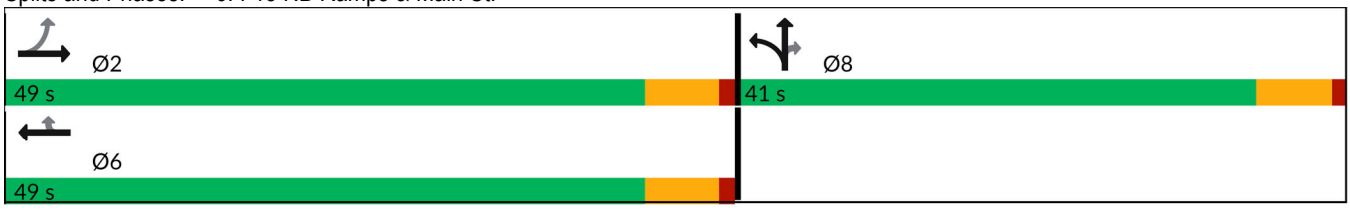
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	2.66	10.92
HCM LOS			B

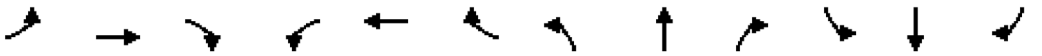
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	644	-	624	-
HCM Lane V/C Ratio	-	-	0.055	-	0.026	-
HCM Ctrl Dly (s/v)	-	-	7.4	0	10.9	0
HCM Lane LOS	-	-	A	A	B	A
HCM 95th %tile Q(veh)	-	-	0.2	-	0.1	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	16	1404	1247	456	182	4	718
Future Volume (vph)	16	1404	1247	456	182	4	718
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	49.0	49.0	49.0	49.0	41.0	41.0	41.0
Total Split (%)	54.4%	54.4%	54.4%	54.4%	45.6%	45.6%	45.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		38.2	38.2	38.2	25.6	25.6	25.6
Actuated g/C Ratio		0.50	0.50	0.50	0.34	0.34	0.34
v/c Ratio		0.80	0.52	0.47	0.35	0.75	0.72
Control Delay (s/veh)		19.4	14.6	3.1	21.5	32.2	29.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		19.4	14.6	3.1	21.5	32.2	29.4
LOS		B	B	A	C	C	C
Approach Delay (s/veh)		19.4	11.5			29.0	
Approach LOS		B	B			C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 76.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay (s/veh): 18.3	Intersection LOS: B
Intersection Capacity Utilization 97.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1404	311	0	1247	456	182	4	718	0	0	0
Future Volume (veh/h)	16	1404	311	0	1247	456	182	4	718	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1700	1800	1800	0	1800	1800	1700	1800	1800			
Adj Flow Rate, veh/h	16	1447	321	0	1286	470	188	0	743			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	63	1959	430	0	2506	778	498	0	938			
Arrive On Green	0.51	0.51	0.51	0.00	0.51	0.51	0.31	0.00	0.31			
Sat Flow, veh/h	14	3841	844	0	5076	1525	1619	0	3051			
Grp Volume(v), veh/h	654	564	565	0	1286	470	188	0	743			
Grp Sat Flow(s),veh/h/ln	1722	1491	1486	0	1638	1525	1619	0	1525			
Q Serve(g_s), s	0.0	19.6	19.8	0.0	11.4	14.3	6.0	0.0	14.6			
Cycle Q Clear(g_c), s	18.4	19.6	19.8	0.0	11.4	14.3	6.0	0.0	14.6			
Prop In Lane	0.02		0.57	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	934	760	758	0	2506	778	498	0	938			
V/C Ratio(X)	0.70	0.74	0.75	0.00	0.51	0.60	0.38	0.00	0.79			
Avail Cap(c_a), veh/h	1164	976	973	0	3216	998	863	0	1625			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.4	12.7	12.7	0.0	10.7	11.4	17.8	0.0	20.8			
Incr Delay (d2), s/veh	1.4	2.3	2.3	0.0	0.2	0.8	0.5	0.0	1.6			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.7	5.2	5.2	0.0	3.0	3.7	2.0	0.0	4.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.8	15.0	15.1	0.0	10.8	12.2	18.3	0.0	22.4			
LnGrp LOS	B	B	B		B	B	B		C			
Approach Vol, veh/h		1784			1756			931				
Approach Delay, s/veh		14.6			11.2			21.6				
Approach LOS		B			B			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		39.5				39.5		26.2				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		43.0				43.0		35.0				
Max Q Clear Time (g_c+I1), s		21.8				16.3		16.6				
Green Ext Time (p_c), s		11.7				11.8		3.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.7
HCM 7th LOS	B

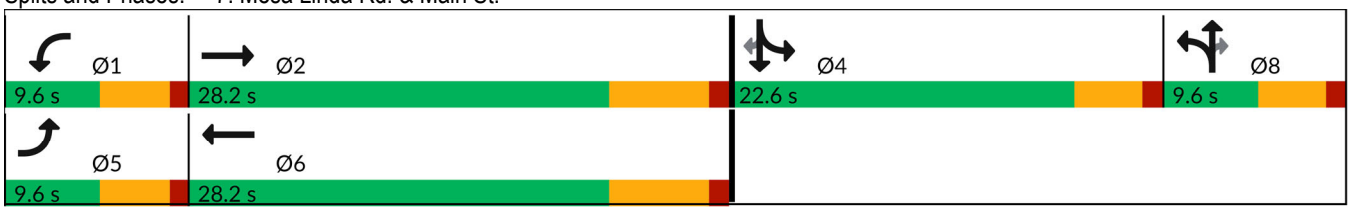
Notes

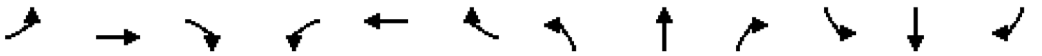
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	891	68	842	4	159	2	4
Future Volume (vph)	15	891	68	842	4	159	2	4
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	18.9	5.1	24.4	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.33	0.09	0.43	0.09	0.09	0.18	0.18
v/c Ratio	0.13	0.66	0.56	0.49	0.29	0.60	0.08	0.01
Control Delay (s/veh)	28.5	18.7	45.2	12.9	32.0	14.5	22.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	18.7	45.2	12.9	32.0	14.5	22.8	0.0
LOS	C	B	D	B	C	B	C	A
Approach Delay (s/veh)		18.8		15.2	17.9		18.9	
Approach LOS		B		B	B		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 57.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay (s/veh): 17.1	Intersection LOS: B
Intersection Capacity Utilization 50.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	891	17	68	842	35	34	4	159	19	2	4
Future Volume (veh/h)	15	891	17	68	842	35	34	4	159	19	2	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	18	1048	19	80	991	40	40	5	126	22	2	3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	1495	27	104	1662	67	139	17	138	286	26	277
Arrive On Green	0.02	0.30	0.30	0.06	0.34	0.34	0.09	0.09	0.09	0.18	0.18	0.18
Sat Flow, veh/h	1619	4970	90	1619	4845	195	1532	191	1525	1578	143	1525
Grp Volume(v), veh/h	18	691	376	80	670	361	45	0	126	24	0	3
Grp Sat Flow(s),veh/h/ln	1619	1638	1784	1619	1638	1765	1723	0	1525	1721	0	1525
Q Serve(g_s), s	0.6	10.3	10.3	2.7	9.3	9.3	1.3	0.0	4.5	0.6	0.0	0.1
Cycle Q Clear(g_c), s	0.6	10.3	10.3	2.7	9.3	9.3	1.3	0.0	4.5	0.6	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.11	0.89		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	35	986	537	104	1124	605	156	0	138	312	0	277
V/C Ratio(X)	0.51	0.70	0.70	0.77	0.60	0.60	0.29	0.00	0.91	0.08	0.00	0.01
Avail Cap(c_a), veh/h	147	1308	712	147	1308	705	156	0	138	562	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	17.1	17.1	25.4	14.9	15.0	23.4	0.0	24.8	18.7	0.0	18.5
Incr Delay (d2), s/veh	4.2	1.1	2.0	8.8	0.6	1.0	0.4	0.0	49.5	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.2	3.6	1.1	2.7	3.0	0.5	0.0	3.3	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.8	18.2	19.1	34.1	15.5	16.0	23.8	0.0	74.4	18.8	0.0	18.5
LnGrp LOS	C	B	B	C	B	B	C		E	B		B
Approach Vol, veh/h		1085			1111			171			27	
Approach Delay, s/veh		18.7			17.0			61.1			18.8	
Approach LOS		B			B			E			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	22.8		14.6	5.8	25.1		9.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	4.7	12.3		2.6	2.6	11.3		6.5				
Green Ext Time (p_c), s	0.0	4.3		0.1	0.0	4.4		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	20.9	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	335	14	31	444	30	59
Future Vol, veh/h	335	14	31	444	30	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	465	19	43	617	42	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	485	0	1168	465
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1089	-	216	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1089	-	207	601
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	475	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.55	15.16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	-	-	1089	-
HCM Lane V/C Ratio	0.259	-	-	0.04	-
HCM Ctrl Dly (s/v)	15.2	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	46	16	54	112	15
Future Vol, veh/h	29	46	16	54	112	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	31	49	17	57	119	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	211	119	135	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	782	938	1462	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	773	938	1462	-	-	-
Mov Cap-2 Maneuver	771	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.58	1.71	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1462	-	866	-	-
HCM Lane V/C Ratio	0.012	-	0.092	-	-
HCM Ctrl Dly (s/v)	7.5	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX 10:

OPENING YEAR CUMULATIVE (2026) WITHOUT PROJECT TRAFFIC SIGNAL WARRANTS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

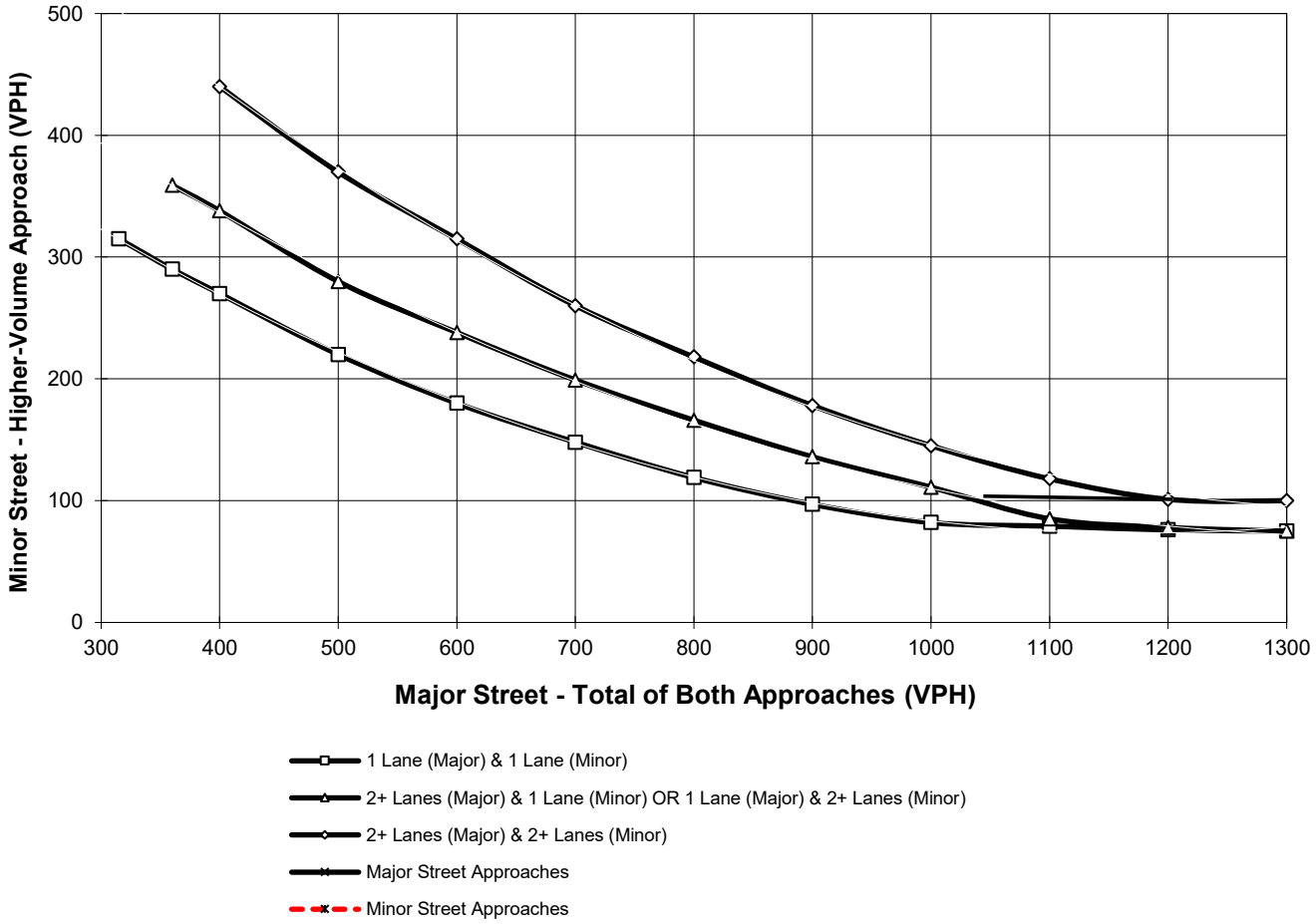
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **68**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **235**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

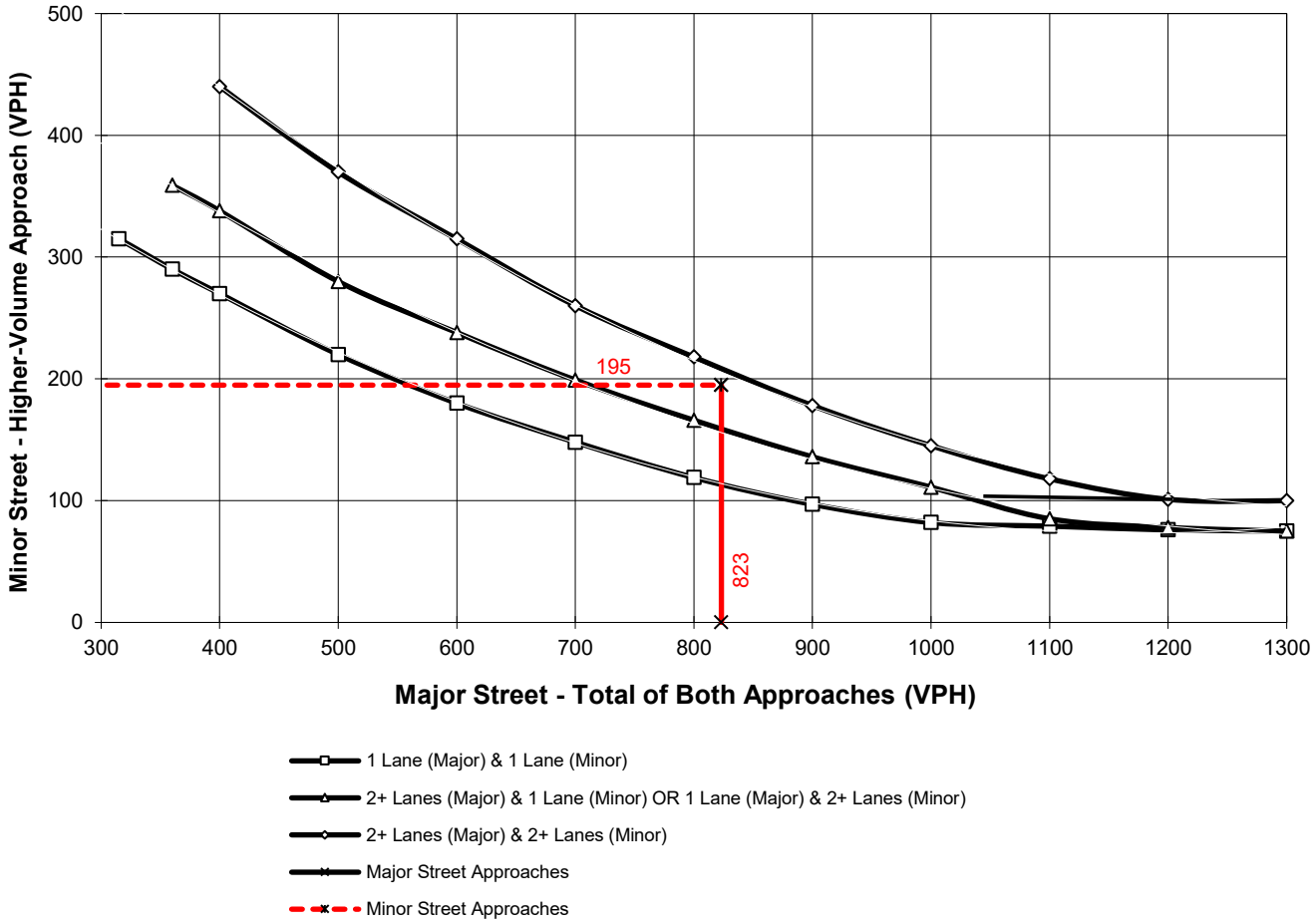
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Joshua St.** Total of Both Approaches (VPH) = **823**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Outpost Rd.** High Volume Approach (VPH) = **195**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

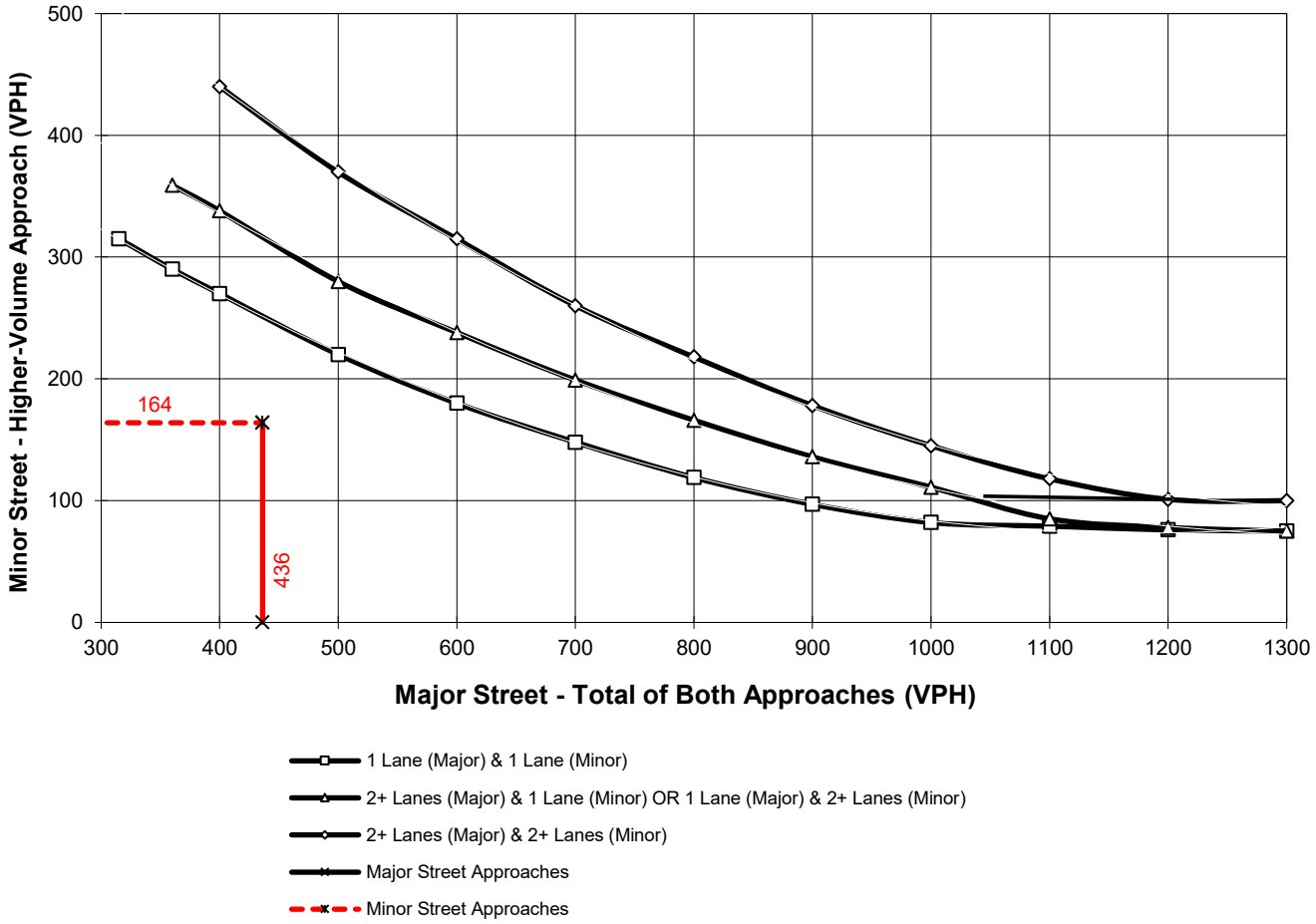
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Mariposa Rd.** Total of Both Approaches (VPH) = **436**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.** High Volume Approach (VPH) = **164**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

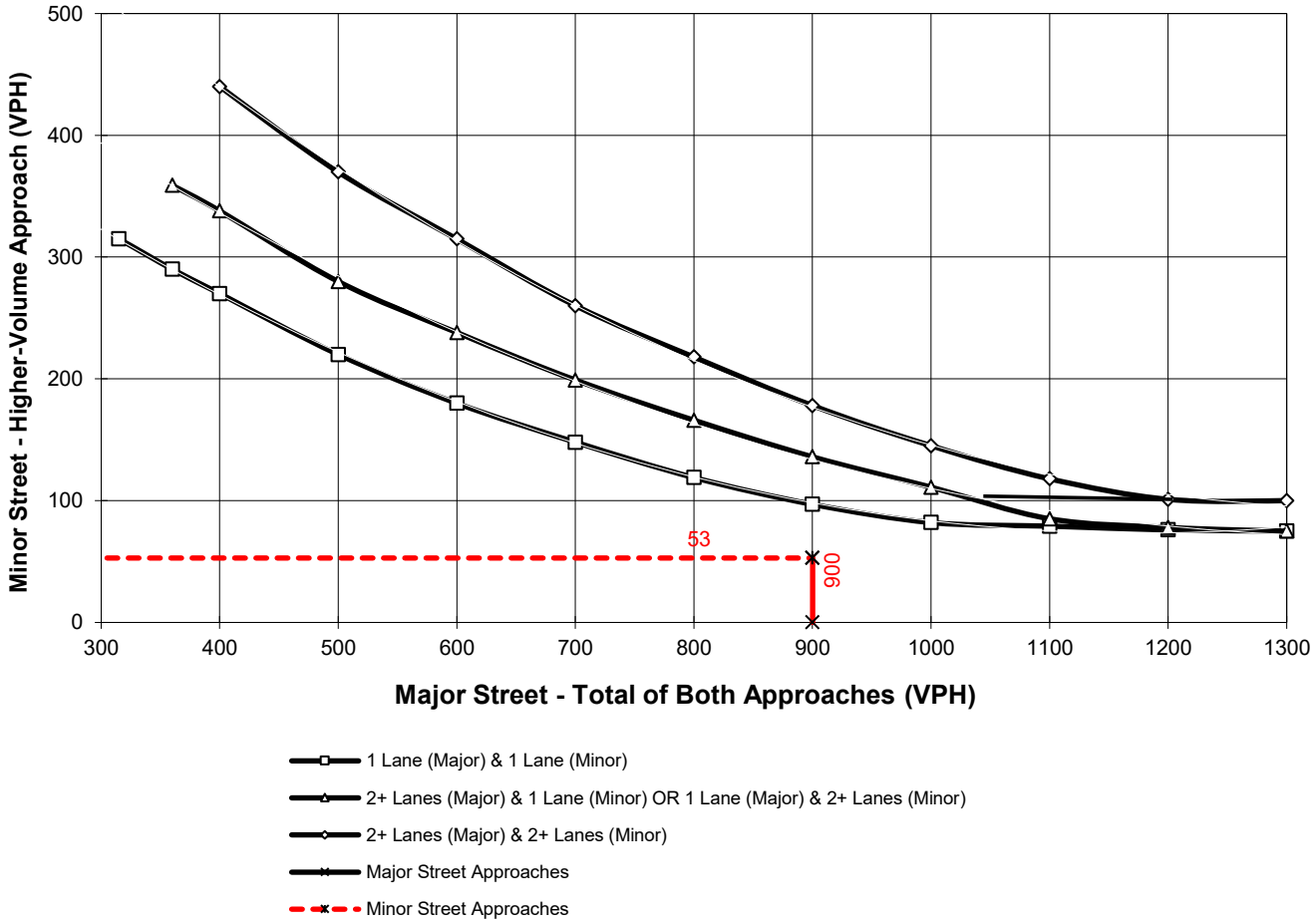
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Oak Hill Rd.**
Total of Both Approaches (VPH) = **900**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-15 SB Ramps**
High Volume Approach (VPH) = **53**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

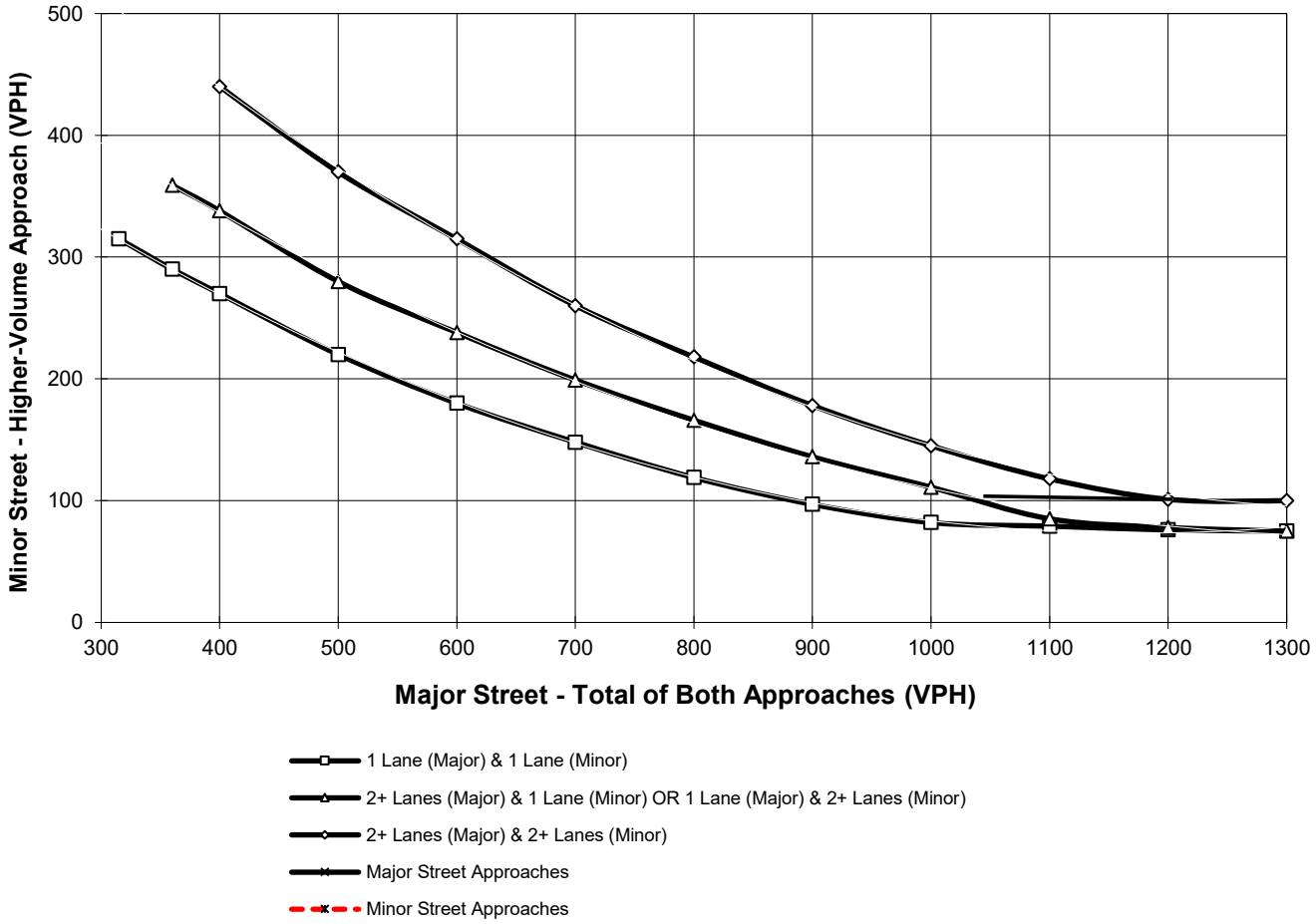
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.** Total of Both Approaches (VPH) = **215**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Driveway** High Volume Approach (VPH) = **19**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 11:

OPENING YEAR CUMULATIVE (2026) WITH PROJECT TRAFFIC SIGNAL WARRANTS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

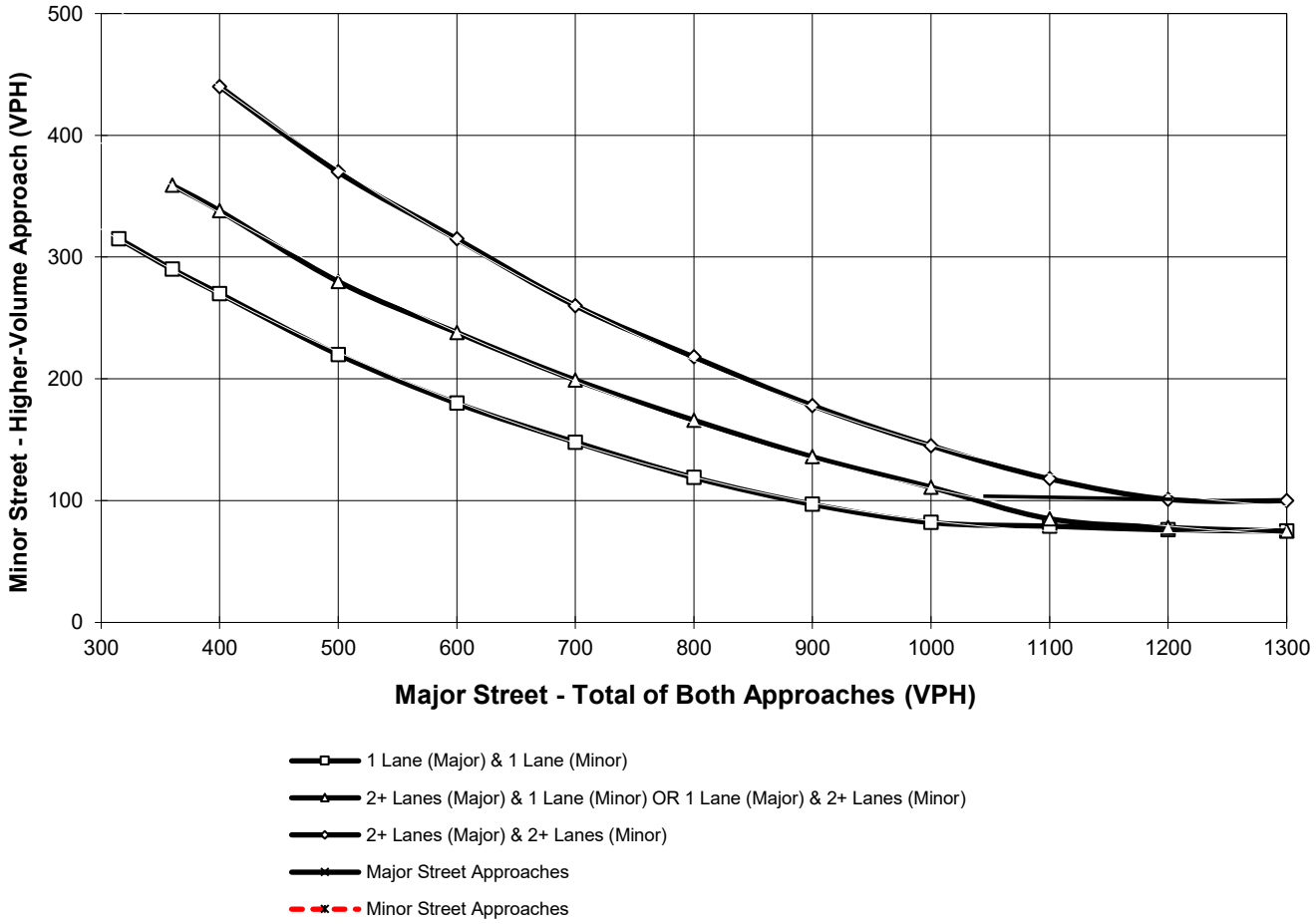
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **97**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **365**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

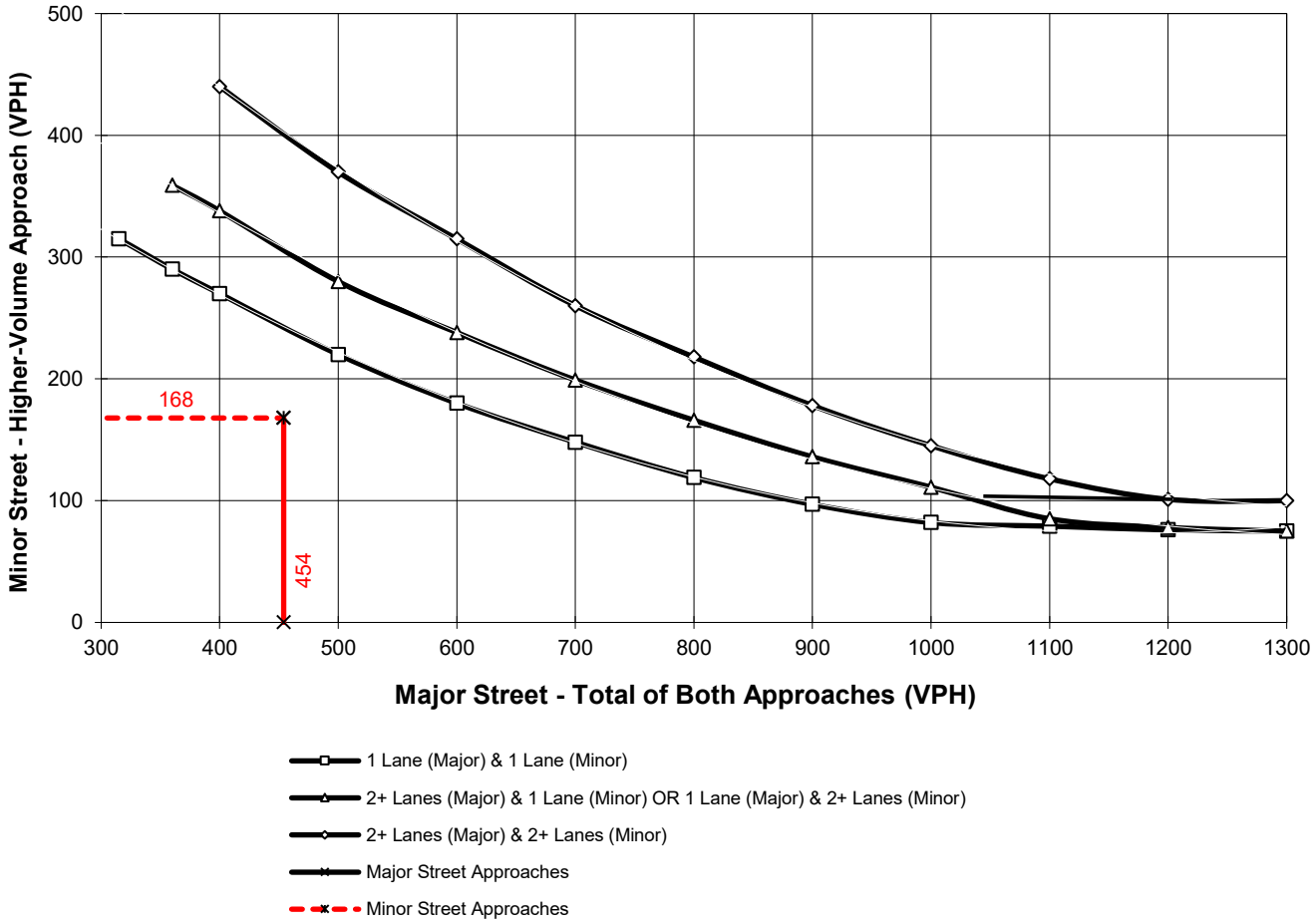
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Mariposa Rd.** Total of Both Approaches (VPH) = **454**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.** High Volume Approach (VPH) = **168**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

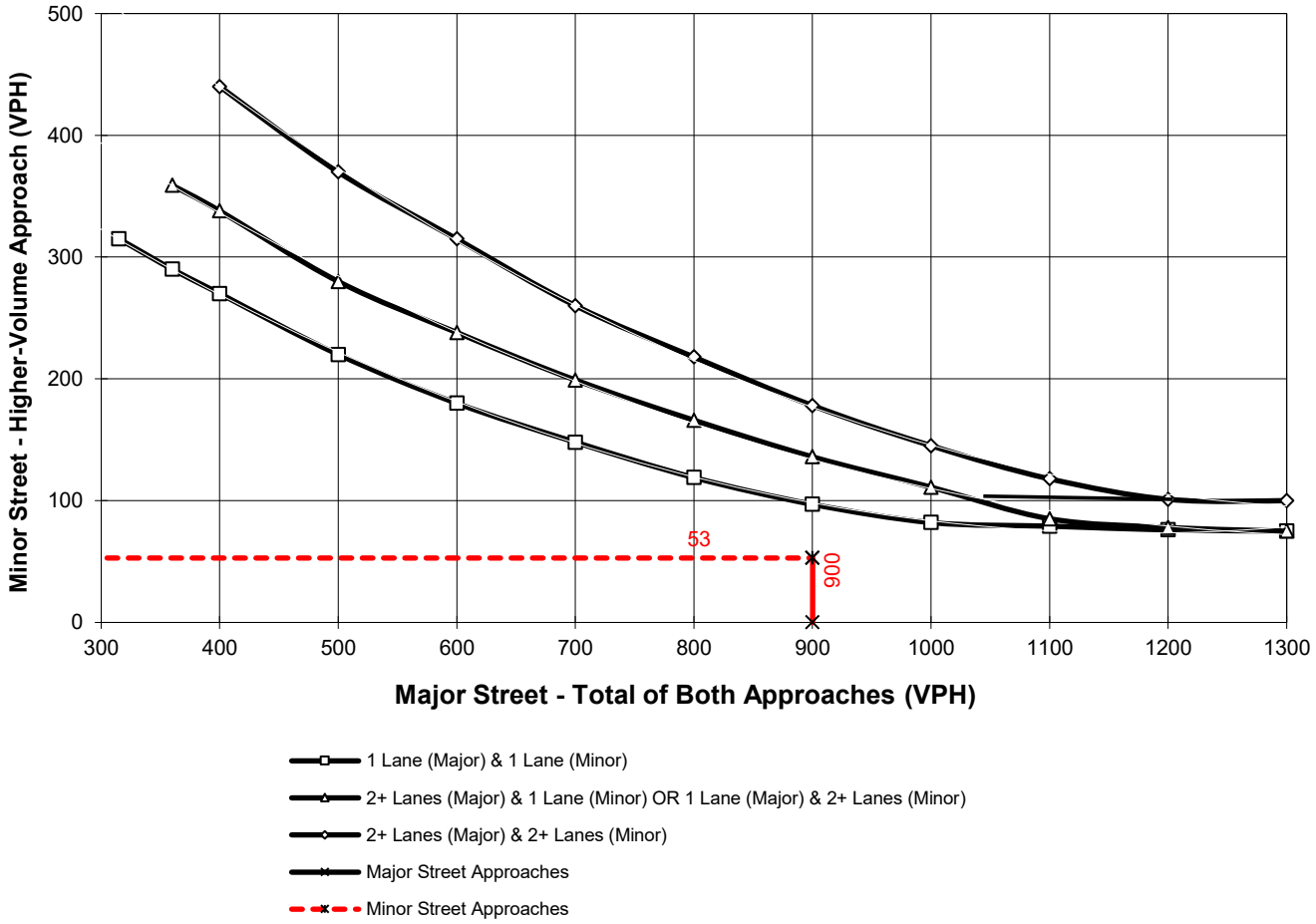
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Oak Hill Rd.**
Total of Both Approaches (VPH) = **900**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-15 SB Ramps**
High Volume Approach (VPH) = **53**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

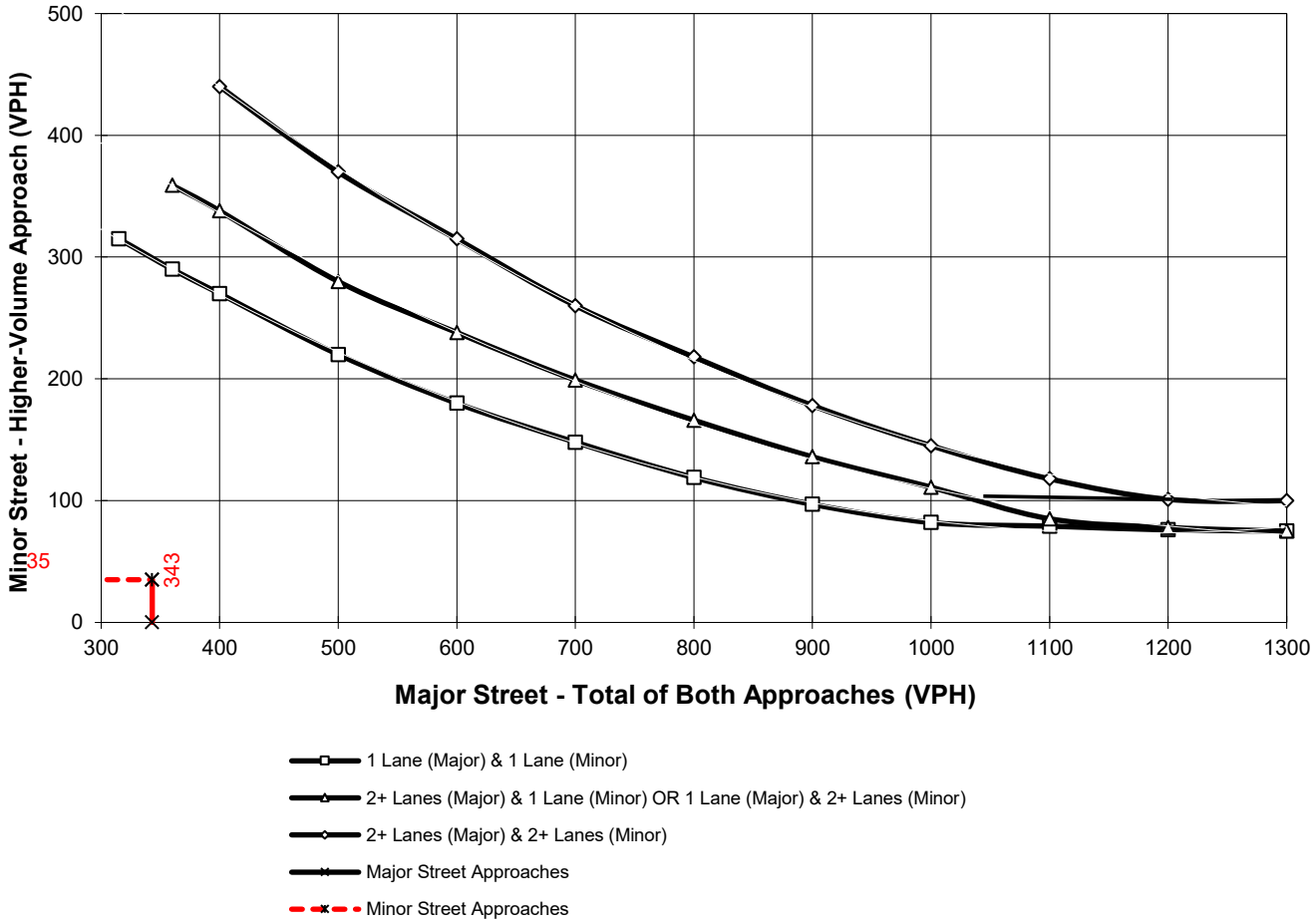
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2026 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.**
Total of Both Approaches (VPH) = **343**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Driveway**
High Volume Approach (VPH) = **35**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

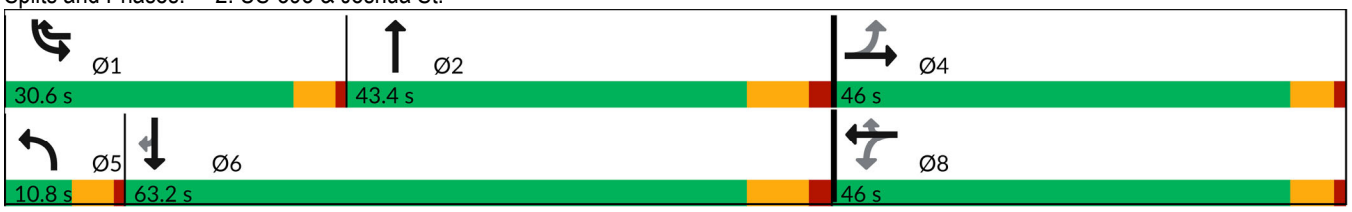
APPENDIX 12:

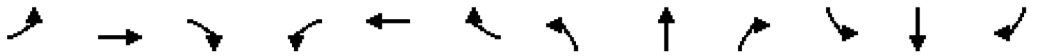
OPENING YEAR CUMULATIVE (2026) WITH PROJECT INTERSECTION ANALYSIS WITH IMPROVEMENTS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	47	66	87	176	658	19	1279	317	1014	241
Future Volume (vph)	47	66	87	176	658	19	1279	317	1014	241
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	1	5	2	1	6	
Permitted Phases	4		8		8					6
Detector Phase	4	4	8	8	1	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	9.7	9.7	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	30.6	10.8	43.4	30.6	63.2	63.2
Total Split (%)	38.3%	38.3%	38.3%	38.3%	25.5%	9.0%	36.2%	25.5%	52.7%	52.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.7	4.7	7.5	4.7	7.5	7.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	16.7	16.7	17.6	17.6	48.9	5.8	36.4	26.2	63.4	63.4
Actuated g/C Ratio	0.17	0.17	0.18	0.18	0.50	0.06	0.37	0.27	0.65	0.65
v/c Ratio	0.39	0.30	0.45	0.60	0.92	0.22	0.81	0.80	0.50	0.24
Control Delay (s/veh)	42.0	30.9	40.9	43.3	39.0	53.6	33.1	50.6	13.1	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.0	30.9	40.9	43.3	39.0	53.6	33.1	50.6	13.1	2.5
LOS	D	C	D	D	D	D	C	D	B	A
Approach Delay (s/veh)		35.0		40.0			33.4		19.0	
Approach LOS		C		D			C		B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay (s/veh): 29.3	Intersection LOS: C
Intersection Capacity Utilization 89.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	66	16	87	176	658	19	1279	61	317	1014	241
Future Volume (veh/h)	47	66	16	87	176	658	19	1279	61	317	1014	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	52	73	14	96	193	669	21	1405	54	348	1114	234
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	222	502	96	446	615	850	34	1453	56	349	1690	754
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.02	0.30	0.30	0.22	0.49	0.49
Sat Flow, veh/h	615	1468	282	1257	1800	1525	1619	4856	187	1619	3420	1525
Grp Volume(v), veh/h	52	0	87	96	193	669	21	948	511	348	1114	234
Grp Sat Flow(s),veh/h/ln	615	0	1749	1257	1800	1525	1619	1638	1766	1619	1710	1525
Q Serve(g_s), s	8.2	0.0	4.1	6.9	9.5	41.0	1.5	34.2	34.2	25.8	29.3	11.0
Cycle Q Clear(g_c), s	17.7	0.0	4.1	11.0	9.5	41.0	1.5	34.2	34.2	25.8	29.3	11.0
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	222	0	598	446	615	850	34	980	528	349	1690	754
V/C Ratio(X)	0.23	0.00	0.15	0.22	0.31	0.79	0.62	0.97	0.97	1.00	0.66	0.31
Avail Cap(c_a), veh/h	222	0	598	446	615	850	82	980	528	349	1690	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	27.4	31.2	29.1	20.9	58.3	41.5	41.5	47.0	22.8	18.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.1	0.1	4.5	12.8	21.3	31.1	47.0	1.3	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.7	2.1	4.0	14.7	0.7	15.8	18.5	14.4	10.9	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.8	0.0	27.4	31.3	29.2	25.5	71.1	62.8	72.6	94.0	24.1	18.6
LnGrp LOS	D		C	C	C	C	E	E	E	F	C	B
Approach Vol, veh/h		139			958			1480			1696	
Approach Delay, s/veh		30.6			26.8			66.3			37.7	
Approach LOS		C			C			E			D	

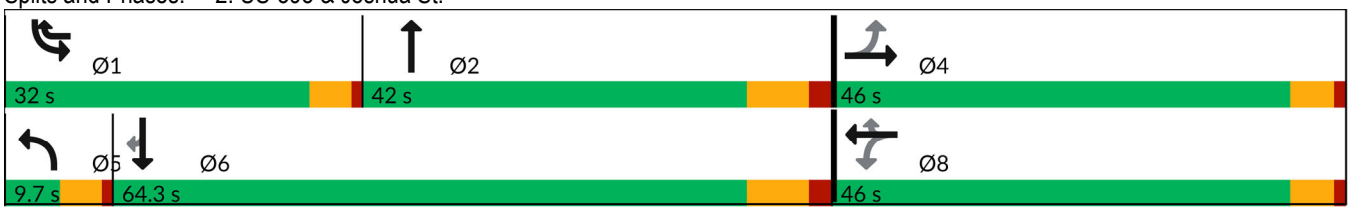
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.6	43.4		46.0	7.2	66.8		46.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	25.9	35.9		41.0	6.1	55.7		41.0				
Max Q Clear Time (g_c+I1), s	27.8	36.2		19.7	3.5	31.3		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	15.2		0.0				

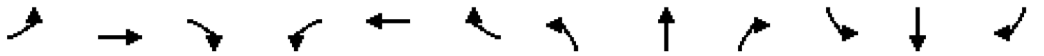
Intersection Summary			
HCM 7th Control Delay, s/veh		44.9	
HCM 7th LOS		D	

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	99	165	77	72	470	22	1324	398	1360	78
Future Volume (vph)	99	165	77	72	470	22	1324	398	1360	78
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	1	5	2	1	6	
Permitted Phases	4		8		8					6
Detector Phase	4	4	8	8	1	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	9.7	9.7	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	32.0	9.7	42.0	32.0	64.3	64.3
Total Split (%)	38.3%	38.3%	38.3%	38.3%	26.7%	8.1%	35.0%	26.7%	53.6%	53.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.7	4.7	7.5	4.7	7.5	7.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	17.4	17.4	17.4	17.4	50.1	5.1	34.9	27.6	63.8	63.8
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.51	0.05	0.36	0.28	0.66	0.66
v/c Ratio	0.48	0.59	0.58	0.24	0.61	0.28	0.87	0.91	0.64	0.08
Control Delay (s/veh)	42.1	42.5	51.6	34.1	18.4	57.5	36.6	61.7	15.3	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.1	42.5	51.6	34.1	18.4	57.5	36.6	61.7	15.3	4.1
LOS	D	D	D	C	B	E	D	E	B	A
Approach Delay (s/veh)		42.4		24.4			37.0		24.9	
Approach LOS		D		C			D		C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 97.4		
Natural Cycle: 115		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.91		
Intersection Signal Delay (s/veh): 30.2	Intersection LOS: C	
Intersection Capacity Utilization 87.8%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	165	15	77	72	470	22	1324	119	398	1360	78
Future Volume (veh/h)	99	165	15	77	72	470	22	1324	119	398	1360	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	104	174	14	81	76	463	23	1394	97	419	1432	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	245	403	32	248	442	774	38	1538	107	424	1937	864
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.02	0.33	0.33	0.26	0.57	0.57
Sat Flow, veh/h	831	1644	132	1147	1800	1525	1619	4691	326	1619	3420	1525
Grp Volume(v), veh/h	104	0	188	81	76	463	23	974	517	419	1432	71
Grp Sat Flow(s),veh/h/ln	831	0	1776	1147	1800	1525	1619	1638	1741	1619	1710	1525
Q Serve(g_s), s	11.7	0.0	9.3	6.7	3.5	22.4	1.5	29.6	29.6	26.9	32.6	2.2
Cycle Q Clear(g_c), s	15.2	0.0	9.3	16.0	3.5	22.4	1.5	29.6	29.6	26.9	32.6	2.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	245	0	436	248	442	774	38	1074	571	424	1937	864
V/C Ratio(X)	0.42	0.00	0.43	0.33	0.17	0.60	0.61	0.91	0.91	0.99	0.74	0.08
Avail Cap(c_a), veh/h	368	0	699	418	708	1000	78	1084	576	424	1937	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	0.0	33.2	40.0	31.0	18.2	50.4	33.5	33.5	38.3	16.9	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.3	0.3	0.1	0.3	11.2	11.4	18.8	40.4	1.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	3.9	1.9	1.5	7.3	0.7	12.4	14.4	14.6	11.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.4	0.0	33.5	40.2	31.1	18.5	61.6	44.9	52.3	78.7	18.7	10.4
LnGrp LOS	D		C	D	C	B	E	D	D	E	B	B
Approach Vol, veh/h		292			620			1514			1922	
Approach Delay, s/veh		34.9			22.8			47.7			31.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	41.7		30.6	7.1	66.5		30.6				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	27.3	34.5		41.0	5.0	56.8		41.0				
Max Q Clear Time (g_c+I1), s	28.9	31.6		17.2	3.5	34.6		24.4				
Green Ext Time (p_c), s	0.0	2.5		1.0	0.0	16.4		1.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		36.1	
HCM 7th LOS		D	

APPENDIX 13:

POST PROCESSING WORKSHEETS

Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: US-395 & Joshua St.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	10	30	21	216%	19	77	58	305%
	Through	679	710	31	5%	1,015	913	-102	-10%
	Right	57	80	23	40%	112	191	79	71%
	NB Total	746	820	75	10%	1,146	1,181	36	3%
SOUTH BOUND	Left	142	124	-18	-13%	134	234	101	75%
	Through	770	666	-104	-14%	828	932	104	13%
	Right	196	387	192	98%	41	170	129	315%
	SB Total	1,108	1,177	70	6%	1,003	1,336	334	33%
EAST BOUND	Left	35	101	67	193%	47	192	146	313%
	Through	25	96	72	292%	48	375	327	681%
	Right	14	54	40	286%	5	25	20	400%
	EB Total	73	251	178	244%	100	592	493	495%
WEST BOUND	Left	77	180	103	134%	72	92	21	29%
	Through	72	383	312	436%	18	83	66	374%
	Right	186	329	143	77%	221	235	14	6%
	WB Total	335	892	558	167%	310	410	100	32%
TOTAL ENTERING VOLUME		2,261	3,140	879.5	39%	2,558	3,519	962	38%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,177	1,336			
North Leg	Outbound	1,140	1,340			
North Leg	**TOTAL**	**2,317**	**2,676**	**6%**	**7%**	**38,525**
South Leg	Inbound	820	1,181			
South Leg	Outbound	900	1,049			
South Leg	**TOTAL**	**1,720**	**2,230**	**4%**	**5%**	**41,877**
East Leg	Inbound	892	410			
East Leg	Outbound	300	800			
East Leg	**TOTAL**	**1,192**	**1,210**	**5%**	**5%**	**25,493**
West Leg	Inbound	251	592			
West Leg	Outbound	800	330			
West Leg	**TOTAL**	**1,051**	**922**	**4%**	**3%**	**29,582**
OVERALL TOTAL		***6,280***	***7,038***	**5%**	***5%***	***135,478***

Z:\Shared\UcJobs_15600-16000_15700\15720\02_LOS\Post Processing\[2_US 395 & Joshua.xls]Output (3)

Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: Mariposa Rd. & Joshua St.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	58	150	92	159%	47	12	-35	-74%
	Through	77	110	34	44%	92	241	150	163%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	135	260	126	93%	139	253	115	83%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	215	341	127	59%	92	176	85	92%
	Right	54	339	285	528%	25	68	43	172%
	SB Total	269	680	412	153%	117	244	128	109%
EAST BOUND	Left	31	53	23	74%	42	289	247	588%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	121	97	-24	-20%	32	14	-18	-56%
	EB Total	151	150	-1	-1%	74	303	229	309%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
TOTAL ENTERING VOLUME		554	1,090	536	97%	329	800	471	143%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	680	244			
North Leg	Outbound	163	530			
North Leg	**TOTAL**	**843**	**774**	**3%**	**2%**	**31,264**
South Leg	Inbound	260	253			
South Leg	Outbound	438	190			
South Leg	**TOTAL**	**698**	**443**	**7%**	**5%**	**9,365**
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
East Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
West Leg	Inbound	150	303			
West Leg	Outbound	489	80			
West Leg	**TOTAL**	**639**	**383**	**9%**	**5%**	**7,328**
OVERALL TOTAL		***2,180***	***1,600***	**5%**	***3%***	***47,957***

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Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: I-15 SB Ramps & Oak Hill Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	11	10	-1	-5%	8	5	-3	-38%
	Through	36	28	-8	-21%	7	9	3	38%
	Right	6	12	6	100%	0	0	0	#DIV/0!
	SB Total	52	50	-2	-4%	15	14	-1	-3%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	11	13	3	24%	9	15	7	76%
	Right	417	437	20	5%	40	152	113	285%
	EB Total	428	450	23	5%	48	167	119	248%
WEST BOUND	Left	428	817	389	91%	77	179	103	134%
	Through	27	133	107	402%	138	140	3	2%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	455	950	496	109%	214	319	105	49%
TOTAL ENTERING VOLUME		934	1,450	516	55%	277	500	224	81%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	50	14			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**50**	**14**	**20%**	**6%**	**248**
South Leg	Inbound	0	0			
South Leg	Outbound	1,282	340			
South Leg	**TOTAL**	**1,282**	**340**	**28%**	**7%**	**4,562**
East Leg	Inbound	950	319			
East Leg	Outbound	23	20			
East Leg	**TOTAL**	**973**	**339**	**12%**	**4%**	**8,071**
West Leg	Inbound	450	167			
West Leg	Outbound	145	140			
West Leg	**TOTAL**	**595**	**307**	**27%**	**14%**	**2,180**
OVERALL TOTAL		***2,900***	***1,000***	**19%**	***7%***	***15,062***

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Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: I-15 NB Ramps & Main St.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	78	75	-3	-3%	161	352	192	119%
	Through	2	1	-1	-33%	4	8	4	100%
	Right	398	451	53	13%	704	624	-80	-11%
	NB Total	477	527	50	10%	869	984	116	13%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,028	1,126	98	10%	1,365	2,096	731	54%
	Right	322	321	-1	0%	305	310	5	2%
	EB Total	1,350	1,447	98	7%	1,670	2,406	736	44%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,089	1,763	675	62%	1,218	1,508	291	24%
	Right	602	602	1	0%	447	532	85	19%
	WB Total	1,690	2,365	675	40%	1,665	2,040	376	23%
TOTAL ENTERING VOLUME		3,517	4,339	822.5	23%	4,203	5,430	1227	29%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	603	540			
North Leg	**TOTAL**	**603**	**540**	**9%**	**8%**	**6,456**
South Leg	Inbound	527	984			
South Leg	Outbound	321	310			
South Leg	**TOTAL**	**848**	**1,294**	**5%**	**7%**	**17,426**
East Leg	Inbound	2,365	2,040			
East Leg	Outbound	1,577	2,720			
East Leg	**TOTAL**	**3,942**	**4,760**	**6%**	**8%**	**62,507**
West Leg	Inbound	1,447	2,406			
West Leg	Outbound	1,838	1,860			
West Leg	**TOTAL**	**3,285**	**4,266**	**6%**	**8%**	**55,854**
OVERALL TOTAL		***8,678***	***10,860***	**6%**	***8%***	***142,243***

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Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: Three Flags Rd. & Poplar St.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	34	36	3	7%	30	43	14	46%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	53	65	13	24%	58	61	3	5%
	NB Total	86	101	15	17%	88	104	17	19%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	12	35	23	192%	96	189	93	97%
	Right	30	31	2	5%	14	42	29	211%
	EB Total	42	66	25	59%	110	231	122	111%
WEST BOUND	Left	81	199	118	146%	30	58	28	93%
	Through	8	44	37	487%	28	47	19	68%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	89	243	155	175%	58	105	47	81%
TOTAL ENTERING VOLUME		216	410	194	90%	255	440	185	73%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**
South Leg	Inbound	101	104			
South Leg	Outbound	230	100			
South Leg	**TOTAL**	**331**	**204**	**7%**	**5%**	**4,437**
East Leg	Inbound	243	105			
East Leg	Outbound	100	250			
East Leg	**TOTAL**	**343**	**355**	**4%**	**4%**	**8,081**
West Leg	Inbound	66	231			
West Leg	Outbound	80	90			
West Leg	**TOTAL**	**146**	**321**	**2%**	**5%**	**6,054**
OVERALL TOTAL		***820***	***880***	**#DIV/0!**	***#DIV/0!***	***#DIV/0!***

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Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: I-15 SB Ramps & Ranchero Rd.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	227	130	-97	-43%	169	155	-14	-8%
	Through	7	2	-5	-71%	3	2	-1	-33%
	Right	175	488	313	179%	79	195	116	147%
	SB Total	409	620	211	52%	251	352	101	40%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	107	310	203	190%	89	411	322	362%
	Right	25	45	20	80%	32	92	60	188%
	EB Total	132	355	223	169%	121	503	382	316%
WEST BOUND	Left	9	3	-6	-67%	4	2	-2	-50%
	Through	86	192	106	123%	120	263	143	119%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	95	195	100	105%	124	265	141	114%
TOTAL ENTERING VOLUME		636	1,170	534	84%	496	1,120	624	126%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	620	352			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**620**	**352**	**5%**	**3%**	**11,482**
South Leg	Inbound	0	0			
South Leg	Outbound	50	96			
South Leg	**TOTAL**	**50**	**96**	**6%**	**11%**	**858**
East Leg	Inbound	195	265			
East Leg	Outbound	440	566			
East Leg	**TOTAL**	**635**	**831**	**4%**	**5%**	**17,851**
West Leg	Inbound	355	503			
West Leg	Outbound	680	458			
West Leg	**TOTAL**	**1,035**	**961**	**2%**	**2%**	**44,435**
OVERALL TOTAL		***2,340***	***2,240***	**3%**	***3%***	***74,626***

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Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: I-15 SB Ramps & Joshua St.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	90	66	-24	-26%	21	20	-1	-5%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	159	308	149	94%	164	247	83	51%
	SB Total	249	374	126	51%	185	267	82	44%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	183	254	72	39%	216	720	505	234%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	183	254	72	39%	216	720	505	234%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	142	552	410	289%	85	103	18	21%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	142	552	410	289%	85	103	18	21%
TOTAL ENTERING VOLUME		573	1,180	607	106%	486	1,090	605	125%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	374	267			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**374**	**267**	**5%**	**4%**	**7,620**
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**
East Leg	Inbound	552	103			
East Leg	Outbound	320	740			
East Leg	**TOTAL**	**872**	**843**	**5%**	**5%**	**16,580**
West Leg	Inbound	254	720			
West Leg	Outbound	860	350			
West Leg	**TOTAL**	**1,114**	**1,070**	**4%**	**4%**	**25,752**
OVERALL TOTAL		***2,360***	***2,180***	**#DIV/0!**	***#DIV/0!***	***#DIV/0!***

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Project:	HCC I Lot 5	Job #:	15720
Scenario:	Horizon Year (2050) Without Project	Analyst:	CS
		Date:	3/28/25

LOCATION: Caliente Rd. & Joshua St.
FORECAST YEAR: 2050

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	3	2	-1	-33%	11	5	-6	-55%
	Right	40	182	142	355%	67	519	453	680%
	NB Total	43	184	141	328%	78	524	447	576%
SOUTH BOUND	Left	15	18	3	20%	28	31	3	11%
	Through	9	4	-5	-56%	3	1	-2	-67%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	24	22	-2	-8%	31	32	1	3%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	218	616	398	183%	26	107	82	320%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	13	18	5	38%	21	27	6	29%
	WB Total	231	634	403	174%	47	134	88	188%
TOTAL ENTERING VOLUME		298	840	542	182%	155	690	535	345%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	22	32			
North Leg	Outbound	20	32			
North Leg	**TOTAL**	**42**	**64**	**3%**	**5%**	**1,254**
South Leg	Inbound	184	524			
South Leg	Outbound	620	108			
South Leg	**TOTAL**	**804**	**632**	**4%**	**3%**	**18,351**
East Leg	Inbound	634	134			
East Leg	Outbound	200	550			
East Leg	**TOTAL**	**834**	**684**	**4%**	**4%**	**18,538**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**
OVERALL TOTAL		***1,680***	***1,380***	**#DIV/0!**	***#DIV/0!***	***#DIV/0!***

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APPENDIX 14:

HORIZON YEAR (2050) WITHOUT PROJECT INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	12.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	416	18	3	182	18	10
Future Vol, veh/h	416	18	3	182	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	514	22	4	225	22	12

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	167	116	0	0	228	0
Stage 1	116	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	821	942	-	-	1352	-
Stage 1	914	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	807	942	-	-	1352	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	956	-	-	-	-	-

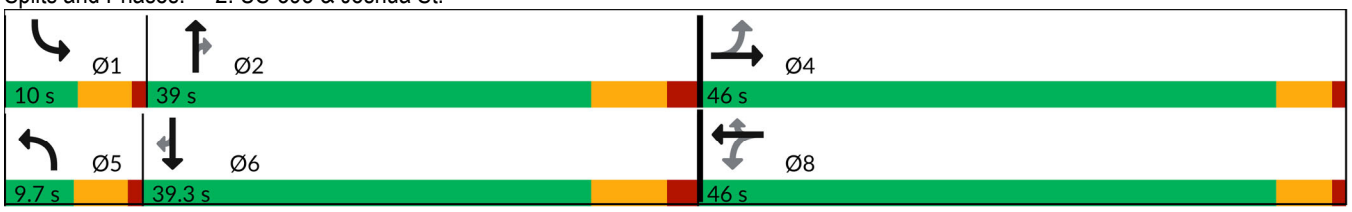
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.18	0	4.96
HCM LOS	C		

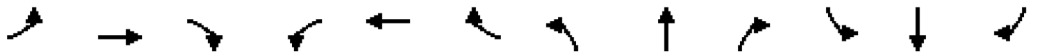
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1352	-
HCM Lane V/C Ratio	-	-	0.671	0.016	-
HCM Ctrl Dly (s/v)	-	-	18.2	7.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	5.3	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	101	96	376	483	850	30	1458	80	361	1156	387
Future Volume (vph)	101	96	376	483	850	30	1458	80	361	1156	387
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	41.0	41.0	41.0	41.0	41.0	5.0	31.5	31.5	5.3	35.7	35.7
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.05	0.33	0.33	0.06	0.38	0.38
v/c Ratio	0.56	0.21	0.83	0.65	1.19	0.37	1.34	0.15	4.18	0.94	0.56
Control Delay (s/veh)	33.3	13.7	40.0	25.9	123.6	55.2	187.0	5.8	Error	44.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.3	13.7	40.0	25.9	123.6	55.2	187.0	5.8	Error	44.2	13.3
LOS	C	B	D	C	F	E	F	A	F	D	B
Approach Delay (s/veh)		21.6		77.6			175.3			308.2	
Approach LOS		C		E			F			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.18	
Intersection Signal Delay (s/veh): 184.0	Intersection LOS: F
Intersection Capacity Utilization 113.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	96	54	376	483	850	30	1458	80	361	1156	387
Future Volume (veh/h)	101	96	54	376	483	850	30	1458	80	361	1156	387
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	111	105	55	413	531	880	33	1602	75	397	1270	394
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	153	507	265	519	820	695	52	1197	534	96	1288	574
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.03	0.33	0.33	0.06	0.36	0.36
Sat Flow, veh/h	367	1174	615	1180	1900	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	111	0	160	413	531	880	33	1602	75	397	1270	394
Grp Sat Flow(s),veh/h/ln	367	0	1789	1180	1900	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	20.1	0.0	5.3	31.9	20.9	41.0	1.8	31.5	3.1	5.3	33.2	19.8
Cycle Q Clear(g_c), s	41.0	0.0	5.3	37.2	20.9	41.0	1.8	31.5	3.1	5.3	33.2	19.8
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	0	772	519	820	695	52	1197	534	96	1288	574
V/C Ratio(X)	0.72	0.00	0.21	0.80	0.65	1.27	0.63	1.34	0.14	4.15	0.99	0.69
Avail Cap(c_a), veh/h	153	0	772	519	820	695	90	1197	534	96	1288	574
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	16.9	28.5	21.3	27.0	45.5	31.7	22.3	44.9	30.3	26.0
Incr Delay (d2), s/veh	13.7	0.0	0.0	7.8	1.4	131.1	8.9	158.0	0.3	1442.3	21.8	4.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	2.1	9.5	8.9	39.6	0.9	38.5	1.1	40.4	16.6	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.2	0.0	16.9	36.2	22.7	158.1	54.4	189.7	22.5	1487.2	52.1	30.4
LnGrp LOS	D		B	D	C	F	D	F	C	F	D	C
Approach Vol, veh/h		271			1824			1710			2061	
Approach Delay, s/veh		32.2			91.1			179.8			324.4	
Approach LOS		C			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		46.0	7.6	41.4		46.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		43.0	3.8	35.2		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			196.2									
HCM 7th LOS			F									

Intersection	
Int Delay, s/veh	20.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	132	405	0	0	1593	80	0	0	0	31	0	116
Future Vol, veh/h	132	405	0	0	1593	80	0	0	0	31	0	116
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	152	466	0	0	1831	92	0	0	0	36	0	133

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	1923	0	-	-	-	0		2646	-	1877
Stage 1	-	-	-	-	-	-		1877	-	-
Stage 2	-	-	-	-	-	-		769	-	-
Critical Hdwy	4.1	-	-	-	-	-		6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-		5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-		3.5	-	3.3
Pot Cap-1 Maneuver	311	-	0	0	-	-		~ 26	0	~ 90
Stage 1	-	-	0	0	-	-		134	0	-
Stage 2	-	-	0	0	-	-		461	0	-
Platoon blocked, %		-			-	-				
Mov Cap-1 Maneuver	311	-	-	-	-	-		~ 13	0	~ 90
Mov Cap-2 Maneuver	-	-	-	-	-	-		57	0	-
Stage 1	-	-	-	-	-	-		69	0	-
Stage 2	-	-	-	-	-	-		461	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	6.66	0	$ 304.18
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	311	-	-	-	57	90
HCM Lane V/C Ratio	0.487	-	-	-	0.624	1.478
HCM Ctrl Dly (s/v)	27.1	-	-	-	141	$ 347.8
HCM Lane LOS	D	-	-	-	F	F
HCM 95th %tile Q(veh)	2.5	-	-	-	2.6	10.3

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	152	150	110	341	339
Future Vol, veh/h	53	152	150	110	341	339
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	190	188	138	426	424

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1151	638	850	0	-	0
Stage 1	638	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	221	480	797	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	165	480	797	-	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	605	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	48.81	6.29	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	736	-	321	-	-
HCM Lane V/C Ratio	0.235	-	0.798	-	-
HCM Ctrl Dly (s/v)	10.9	0	48.8	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.9	-	6.6	-	-

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	13	437	517	133	0	0	0	0	12	41	12
Future Vol, veh/h	0	13	437	517	133	0	0	0	0	12	41	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	14	470	556	143	0	0	0	0	13	44	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	484	0	0	1269	1739	143
Stage 1	-	-	-	-	-	-	1255	1255	-
Stage 2	-	-	-	-	-	-	14	484	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1089	-	0	188	88	910
Stage 1	0	-	-	-	-	0	271	245	-
Stage 2	0	-	-	-	-	0	1014	556	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1089	-	-	84	0	910
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	0	-
Stage 1	-	-	-	-	-	-	271	0	-
Stage 2	-	-	-	-	-	-	452	0	-

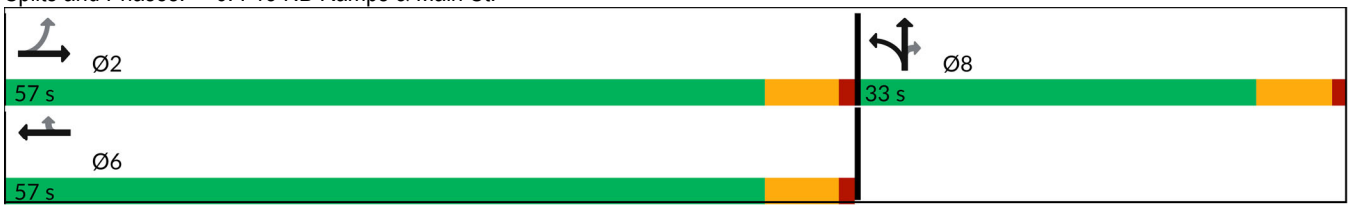
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	9.3	92.85
HCM LOS			F

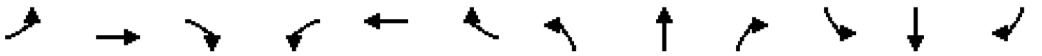
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1003	-	84	910
HCM Lane V/C Ratio	-	-	0.51	-	0.682	0.014
HCM Ctrl Dly (s/v)	-	-	11.7	0	111.8	9
HCM Lane LOS	-	-	B	A	F	A
HCM 95th %tile Q(veh)	-	-	3	-	3.2	0

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	50	1126	1763	699	96	2	451
Future Volume (vph)	50	1126	1763	699	96	2	451
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	57.0	57.0	57.0	57.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		45.8	45.8	45.8	15.6	15.6	15.6
Actuated g/C Ratio		0.62	0.62	0.62	0.21	0.21	0.21
v/c Ratio		0.66	0.58	0.58	0.28	0.65	0.64
Control Delay (s/veh)		10.1	9.6	2.7	27.8	28.6	28.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		10.1	9.6	2.7	27.8	28.6	28.3
LOS		B	A	A	C	C	C
Approach Delay (s/veh)		10.1	7.6			28.3	
Approach LOS		B	A			C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 73.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay (s/veh): 11.0	Intersection LOS: B
Intersection Capacity Utilization 98.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1126	374	0	1763	699	96	2	451	0	0	0
Future Volume (veh/h)	50	1126	374	0	1763	699	96	2	451	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1800	1900	1900			
Adj Flow Rate, veh/h	53	1198	376	0	1876	717	102	0	439			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	98	1963	603	0	3276	1017	320	0	601			
Arrive On Green	0.63	0.63	0.63	0.00	0.63	0.63	0.19	0.00	0.19			
Sat Flow, veh/h	58	3108	955	0	5358	1610	1714	0	3220			
Grp Volume(v), veh/h	396	618	613	0	1876	717	102	0	439			
Grp Sat Flow(s),veh/h/ln	990	1573	1557	0	1729	1610	1714	0	1610			
Q Serve(g_s), s	2.4	15.7	15.8	0.0	13.8	19.5	3.4	0.0	8.5			
Cycle Q Clear(g_c), s	16.2	15.7	15.8	0.0	13.8	19.5	3.4	0.0	8.5			
Prop In Lane	0.13		0.61	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	687	994	983	0	3276	1017	320	0	601			
V/C Ratio(X)	0.58	0.62	0.62	0.00	0.57	0.71	0.32	0.00	0.73			
Avail Cap(c_a), veh/h	778	1217	1204	0	4011	1245	702	0	1318			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.7	7.4	7.4	0.0	7.0	8.1	23.2	0.0	25.3			
Incr Delay (d2), s/veh	0.8	0.7	0.7	0.0	0.2	1.4	0.6	0.0	1.7			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	3.2	3.2	0.0	3.0	4.2	1.3	0.0	3.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	8.1	8.1	0.0	7.2	9.5	23.8	0.0	27.0			
LnGrp LOS	A	A	A		A	A	C		C			
Approach Vol, veh/h		1627			2593			541				
Approach Delay, s/veh		7.7			7.8			26.4				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		47.7				47.7		18.3				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		51.0				51.0		27.0				
Max Q Clear Time (g_c+I1), s		18.2				21.5		10.5				
Green Ext Time (p_c), s		17.2				20.1		1.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.9
HCM 7th LOS	A

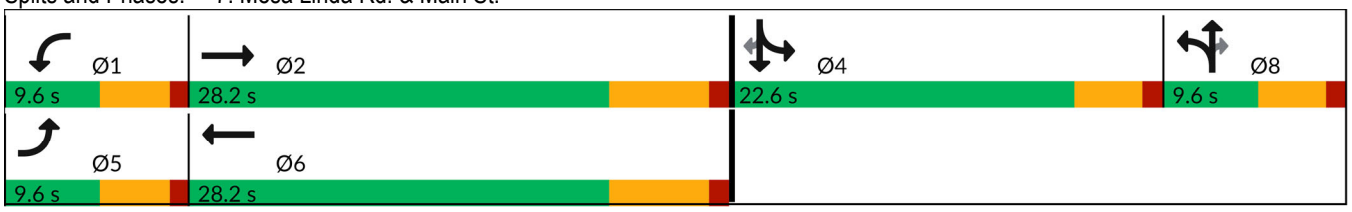
Notes

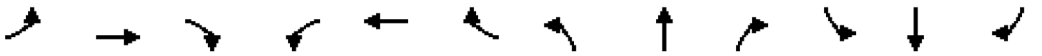
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	1159	154	1244	1	75	0	15
Future Volume (vph)	15	1159	154	1244	1	75	0	15
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	20.3	5.1	28.2	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.35	0.09	0.48	0.09	0.09	0.17	0.17
v/c Ratio	0.11	0.70	1.12	0.55	0.04	0.26	0.14	0.04
Control Delay (s/veh)	28.3	19.1	144.6	12.8	27.0	1.9	23.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.3	19.1	144.6	12.8	27.0	1.9	23.7	0.1
LOS	C	B	F	B	C	A	C	A
Approach Delay (s/veh)		19.2		27.0	3.7		17.3	
Approach LOS		B		C	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 58.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay (s/veh): 22.8	Intersection LOS: C
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1159	8	154	1244	34	5	1	75	40	0	15
Future Volume (veh/h)	15	1159	8	154	1244	34	5	1	75	40	0	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	16	1246	9	166	1338	37	5	1	65	43	0	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	34	1713	12	151	2029	56	90	18	96	320	0	284
Arrive On Green	0.02	0.32	0.32	0.09	0.39	0.39	0.06	0.06	0.06	0.18	0.00	0.18
Sat Flow, veh/h	1714	5313	38	1714	5189	143	1520	304	1610	1810	0	1610
Grp Volume(v), veh/h	16	811	444	166	892	483	6	0	65	43	0	12
Grp Sat Flow(s),veh/h/ln	1714	1729	1893	1714	1729	1874	1824	0	1610	1810	0	1610
Q Serve(g_s), s	0.5	11.8	11.8	5.0	12.0	12.0	0.2	0.0	2.2	1.1	0.0	0.3
Cycle Q Clear(g_c), s	0.5	11.8	11.8	5.0	12.0	12.0	0.2	0.0	2.2	1.1	0.0	0.3
Prop In Lane	1.00		0.02	1.00		0.08	0.83		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	1115	610	151	1352	733	108	0	96	320	0	284
V/C Ratio(X)	0.48	0.73	0.73	1.10	0.66	0.66	0.06	0.00	0.68	0.13	0.00	0.04
Avail Cap(c_a), veh/h	151	1344	736	151	1352	733	161	0	142	575	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	17.0	17.0	25.8	14.1	14.1	25.1	0.0	26.1	19.7	0.0	19.3
Incr Delay (d2), s/veh	3.8	1.6	2.9	101.3	1.2	2.2	0.1	0.0	3.1	0.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.9	4.5	6.0	3.7	4.2	0.1	0.0	0.8	0.5	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	18.6	19.9	127.1	15.3	16.3	25.2	0.0	29.2	19.8	0.0	19.4
LnGrp LOS	C	B	B	F	B	B	C		C	B		B
Approach Vol, veh/h		1271			1541			71			55	
Approach Delay, s/veh		19.2			27.7			28.9			19.7	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	24.5		14.6	5.7	28.3		8.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	7.0	13.8		3.1	2.5	14.0		4.2				
Green Ext Time (p_c), s	0.0	4.5		0.1	0.0	4.8		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.9	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	569	31	199	102	36	65
Future Vol, veh/h	569	31	199	102	36	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	677	37	237	121	43	77

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	714	0	1273	677
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	595	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	895	-	187	456
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	895	-	137	456
Mov Cap-2 Maneuver	-	-	-	-	268	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	408	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6.92	19.64
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	365	-	-	895	-
HCM Lane V/C Ratio	0.33	-	-	0.265	-
HCM Ctrl Dly (s/v)	19.6	-	-	10.5	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.4	-	-	1.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	22	4	49	186	5
Future Vol, veh/h	0	22	4	49	186	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	27	5	60	230	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	300	230	236	0	-	0
Stage 1	230	-	-	-	-	-
Stage 2	70	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	696	815	1343	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	693	815	1343	-	-	-
Mov Cap-2 Maneuver	707	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.57	0.58	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1343	-	815	-	-
HCM Lane V/C Ratio	0.004	-	0.033	-	-
HCM Ctrl Dly (s/v)	7.7	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	107	27	13	319	31	3
Future Vol, veh/h	107	27	13	319	31	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	188	47	23	560	54	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	414	303	0	0	582	0
Stage 1	303	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	585	742	-	-	1002	-
Stage 1	754	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	553	742	-	-	1002	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	858	-	-	-	-	-

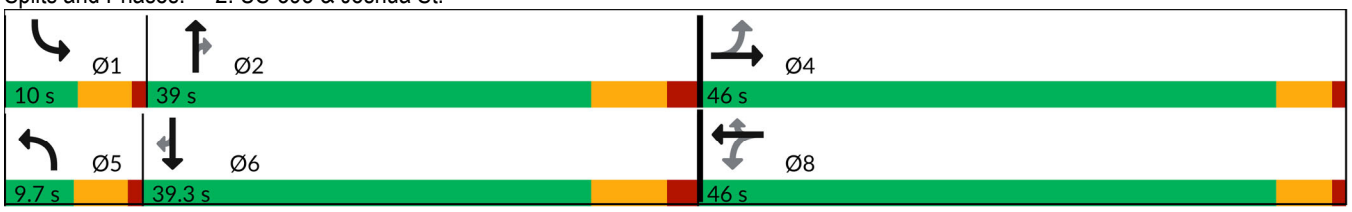
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.91	0	8.03
HCM LOS	B		

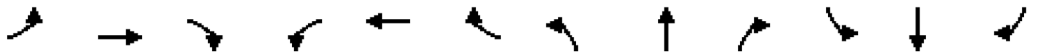
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	637	1002	-
HCM Lane V/C Ratio	-	-	0.369	0.054	-
HCM Ctrl Dly (s/v)	-	-	13.9	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	192	375	92	83	536	77	1509	191	454	1550	170
Future Volume (vph)	192	375	92	83	536	77	1509	191	454	1550	170
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	27.0	27.0	27.0	27.0	27.0	5.1	31.9	31.9	5.4	32.2	32.2
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.06	0.39	0.39	0.07	0.39	0.39
v/c Ratio	0.48	0.67	0.55	0.14	0.89	0.76	1.13	0.27	4.27	1.15	0.25
Control Delay (s/veh)	25.0	28.3	34.4	18.3	35.3	84.6	93.8	4.4	Error	101.6	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.0	28.3	34.4	18.3	35.3	84.6	93.8	4.4	Error	101.6	7.1
LOS	C	C	C	B	D	F	F	A	F	F	A
Approach Delay (s/veh)		27.3		33.2			83.8			387.8	
Approach LOS		C		C			F			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 81.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.27	
Intersection Signal Delay (s/veh): 196.4	Intersection LOS: F
Intersection Capacity Utilization 113.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	375	25	92	83	536	77	1509	191	454	1550	170
Future Volume (veh/h)	192	375	25	92	83	536	77	1509	191	454	1550	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	202	395	24	97	87	532	81	1588	173	478	1632	168
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	338	634	38	247	679	575	102	1353	604	108	1366	609
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.06	0.37	0.37	0.06	0.38	0.38
Sat Flow, veh/h	774	1773	108	931	1900	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	202	0	419	97	87	532	81	1588	173	478	1632	168
Grp Sat Flow(s),veh/h/ln	774	0	1881	931	1900	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	20.0	0.0	15.5	8.1	2.6	26.6	3.9	31.5	6.3	5.3	31.8	6.1
Cycle Q Clear(g_c), s	22.6	0.0	15.5	23.6	2.6	26.6	3.9	31.5	6.3	5.3	31.8	6.1
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	338	0	672	247	679	575	102	1353	604	108	1366	609
V/C Ratio(X)	0.60	0.00	0.62	0.39	0.13	0.92	0.79	1.17	0.29	4.42	1.19	0.28
Avail Cap(c_a), veh/h	440	0	918	368	927	786	102	1353	604	108	1366	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	22.3	32.1	18.2	25.9	39.0	26.3	18.4	39.4	26.1	18.1
Incr Delay (d2), s/veh	0.6	0.0	0.4	0.4	0.0	11.6	32.9	86.2	0.6	1560.6	95.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	6.3	1.8	1.1	11.1	2.5	27.7	2.1	48.9	29.6	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	0.0	22.7	32.4	18.2	37.5	71.9	112.5	18.9	1600.0	121.1	18.6
LnGrp LOS	C		C	C	B	D	E	F	B	F	F	B
Approach Vol, veh/h		621			716			1842			2278	
Approach Delay, s/veh		23.9			34.5			101.9			423.9	
Approach LOS		C			C			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		35.0	9.7	39.3		35.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		24.6	5.9	33.8		28.6				
Green Ext Time (p_c), s	0.0	0.0		2.3	0.0	0.0		1.4				

Intersection Summary		
HCM 7th Control Delay, s/veh	218.6	
HCM 7th LOS	F	

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	335	685	0	0	524	116	0	0	0	35	0	187
Future Vol, veh/h	335	685	0	0	524	116	0	0	0	35	0	187
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	360	737	0	0	563	125	0	0	0	38	0	201

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	689	0	-	-	-	0			2084	-	627
Stage 1	-	-	-	-	-	-			627	-	-
Stage 2	-	-	-	-	-	-			1457	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	915	-	0	0	-	-			59	0	487
Stage 1	-	-	0	0	-	-			536	0	-
Stage 2	-	-	0	0	-	-			216	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	914	-	-	-	-	-			~ 36	0	487
Mov Cap-2 Maneuver	-	-	-	-	-	-			134	0	-
Stage 1	-	-	-	-	-	-			325	0	-
Stage 2	-	-	-	-	-	-			216	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.77	0	21.37
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	914	-	-	-	134	487
HCM Lane V/C Ratio	0.394	-	-	-	0.281	0.413
HCM Ctrl Dly (s/v)	11.5	-	-	-	42.1	17.5
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	1.9	-	-	-	1.1	2

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	19.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	289	54	71	241	176	68
Future Vol, veh/h	289	54	71	241	176	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	321	60	79	268	196	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	659	233	271	0	-	0
Stage 1	233	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	432	811	1304	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	401	811	1304	-	-	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	48.68	1.81	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	410	-	436	-	-
HCM Lane V/C Ratio	0.06	-	0.875	-	-
HCM Ctrl Dly (s/v)	7.9	0	48.7	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.2	-	9	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	152	179	160	0	0	0	0	9	9	0
Future Vol, veh/h	0	15	152	179	160	0	0	0	0	9	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	16	167	197	176	0	0	0	0	10	10	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	184	0	0	586	753	176
Stage 1	-	-	-	-	-	-	569	569	-
Stage 2	-	-	-	-	-	-	16	184	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1404	-	0	476	341	873
Stage 1	0	-	-	-	-	0	570	509	-
Stage 2	0	-	-	-	-	0	1012	752	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1404	-	-	402	0	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	0	-
Stage 1	-	-	-	-	-	-	570	0	-
Stage 2	-	-	-	-	-	-	854	0	-

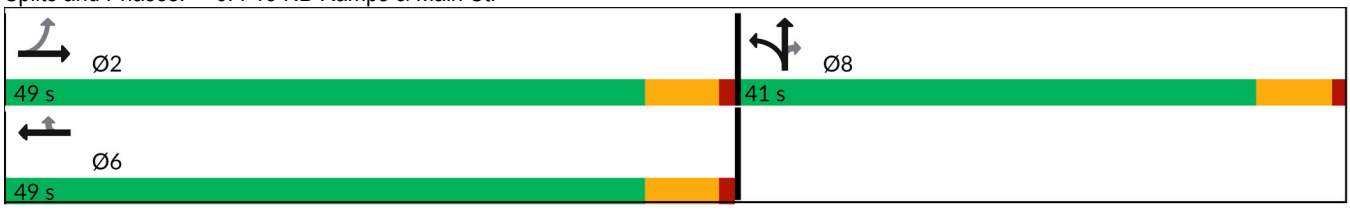
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	4.21	14.41
HCM LOS			B

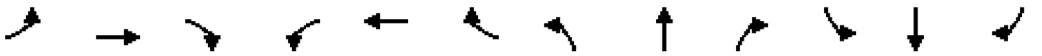
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	950	-	402	-
HCM Lane V/C Ratio	-	-	0.14	-	0.049	-
HCM Ctrl Dly (s/v)	-	-	8	0	14.4	0
HCM Lane LOS	-	-	A	A	B	A
HCM 95th %tile Q(veh)	-	-	0.5	-	0.2	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	18	2096	1508	532	352	8	819
Future Volume (vph)	18	2096	1508	532	352	8	819
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	49.0	49.0	49.0	49.0	41.0	41.0	41.0
Total Split (%)	54.4%	54.4%	54.4%	54.4%	45.6%	45.6%	45.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		43.3	43.3	43.3	29.0	29.0	29.0
Actuated g/C Ratio		0.51	0.51	0.51	0.34	0.34	0.34
v/c Ratio		1.06	0.58	0.50	0.62	0.81	0.77
Control Delay (s/veh)		60.5	16.3	3.1	27.7	37.8	32.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		60.5	16.3	3.1	27.7	37.8	32.3
LOS		E	B	A	C	D	C
Approach Delay (s/veh)		60.5	12.9			32.9	
Approach LOS		E	B			C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 84.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay (s/veh): 37.7	Intersection LOS: D
Intersection Capacity Utilization 114.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2096	355	0	1508	532	352	8	819	0	0	0
Future Volume (veh/h)	18	2096	355	0	1508	532	352	8	819	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1800	1900	1900			
Adj Flow Rate, veh/h	19	2161	366	0	1555	548	363	0	849			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	53	2255	373	0	2759	857	548	0	1029			
Arrive On Green	0.53	0.53	0.53	0.00	0.53	0.53	0.32	0.00	0.32			
Sat Flow, veh/h	14	4238	702	0	5358	1610	1714	0	3220			
Grp Volume(v), veh/h	922	788	836	0	1555	548	363	0	849			
Grp Sat Flow(s),veh/h/ln	1778	1573	1603	0	1729	1610	1714	0	1610			
Q Serve(g_s), s	15.6	37.9	41.3	0.0	16.2	19.5	14.8	0.0	19.7			
Cycle Q Clear(g_c), s	40.3	37.9	41.3	0.0	16.2	19.5	14.8	0.0	19.7			
Prop In Lane	0.02		0.44	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	991	837	853	0	2759	857	548	0	1029			
V/C Ratio(X)	0.93	0.94	0.98	0.00	0.56	0.64	0.66	0.00	0.82			
Avail Cap(c_a), veh/h	991	837	853	0	2759	857	742	0	1394			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.5	17.7	18.5	0.0	12.6	13.4	23.7	0.0	25.4			
Incr Delay (d2), s/veh	14.7	18.4	26.0	0.0	0.3	1.6	1.4	0.0	3.1			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.1	14.9	17.9	0.0	5.0	6.0	5.6	0.0	7.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.3	36.1	44.5	0.0	12.9	15.0	25.1	0.0	28.5			
LnGrp LOS	C	D	D		B	B	C		C			
Approach Vol, veh/h		2546			2103			1212				
Approach Delay, s/veh		37.5			13.5			27.5				
Approach LOS		D			B			C				

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		49.0				49.0		31.8				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		43.0				43.0		35.0				
Max Q Clear Time (g_c+I1), s		43.3				21.5		21.7				
Green Ext Time (p_c), s		0.0				13.0		4.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	26.8
HCM 7th LOS	C

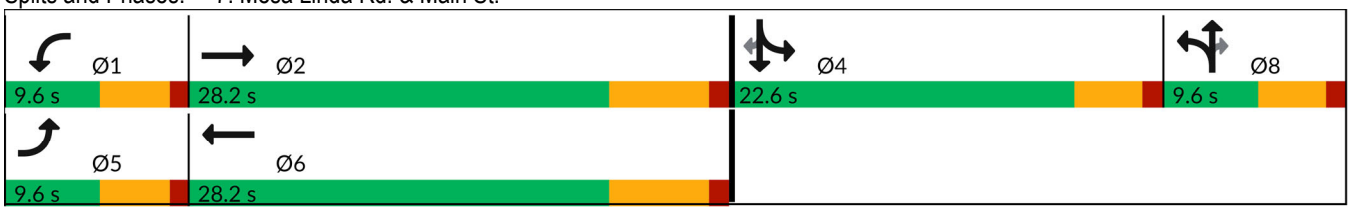
Notes

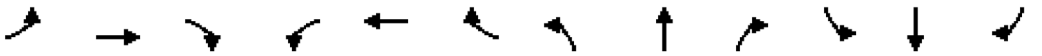
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	17	1321	106	929	5	292	2	5
Future Volume (vph)	17	1321	106	929	5	292	2	5
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.0	22.0	5.0	29.7	5.0	5.0	10.0	10.0
Actuated g/C Ratio	0.08	0.35	0.08	0.48	0.08	0.08	0.16	0.16
v/c Ratio	0.15	0.86	0.91	0.46	0.36	0.77	0.10	0.01
Control Delay (s/veh)	29.2	24.9	91.1	12.2	34.2	17.8	23.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.2	24.9	91.1	12.2	34.2	17.8	23.2	0.0
LOS	C	C	F	B	C	B	C	A
Approach Delay (s/veh)		24.9		20.0	20.0		19.1	
Approach LOS		C		B	B		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 62	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 22.4	Intersection LOS: C
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	1321	23	106	929	40	39	5	292	22	2	5
Future Volume (veh/h)	17	1321	23	106	929	40	39	5	292	22	2	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	20	1554	26	125	1093	46	46	6	283	26	2	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	1821	30	140	2066	87	131	17	132	275	21	263
Arrive On Green	0.02	0.35	0.35	0.08	0.40	0.40	0.08	0.08	0.08	0.16	0.16	0.16
Sat Flow, veh/h	1714	5254	88	1714	5105	215	1610	210	1610	1686	130	1610
Grp Volume(v), veh/h	20	1023	557	125	740	399	52	0	283	28	0	4
Grp Sat Flow(s),veh/h/ln	1714	1729	1884	1714	1729	1861	1820	0	1610	1816	0	1610
Q Serve(g_s), s	0.7	16.8	16.8	4.4	9.9	9.9	1.7	0.0	5.0	0.8	0.0	0.1
Cycle Q Clear(g_c), s	0.7	16.8	16.8	4.4	9.9	9.9	1.7	0.0	5.0	0.8	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.12	0.88		1.00	0.93		1.00
Lane Grp Cap(c), veh/h	40	1198	653	140	1399	753	149	0	132	297	0	263
V/C Ratio(X)	0.50	0.85	0.85	0.89	0.53	0.53	0.35	0.00	2.15	0.09	0.00	0.02
Avail Cap(c_a), veh/h	140	1243	677	140	1399	753	149	0	132	534	0	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	18.6	18.6	27.8	13.8	13.8	26.6	0.0	28.1	21.8	0.0	21.5
Incr Delay (d2), s/veh	3.5	5.8	10.1	44.6	0.4	0.7	0.5	0.0	542.8	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.3	7.6	3.3	3.1	3.4	0.6	0.0	21.5	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.0	24.4	28.6	72.5	14.2	14.5	27.1	0.0	570.9	21.9	0.0	21.5
LnGrp LOS	C	C	C	E	B	B	C		F	C		C
Approach Vol, veh/h		1600			1264			335			32	
Approach Delay, s/veh		25.9			20.0			486.5			21.8	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	27.4		14.6	6.0	31.0		9.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	6.4	18.8		2.8	2.7	11.9		7.0				
Green Ext Time (p_c), s	0.0	2.4		0.1	0.0	4.7		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	71.3
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	382	42	58	506	43	61
Future Vol, veh/h	382	42	58	506	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	531	58	81	703	60	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	589	0	1394	531
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	864	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	996	-	157	552
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	416	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	996	-	145	552
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.92	19.62
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	-	-	996	-
HCM Lane V/C Ratio	0.371	-	-	0.081	-
HCM Ctrl Dly (s/v)	19.6	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.7	-	-	0.3	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	10	1	44	59	5
Future Vol, veh/h	3	10	1	44	59	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	11	1	47	63	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	112	63	68	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	890	1008	1546	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	889	1008	1546	-	-	-
Mov Cap-2 Maneuver	849	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.78	0.16	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1546	-	966	-	-
HCM Lane V/C Ratio	0.001	-	0.014	-	-
HCM Ctrl Dly (s/v)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

APPENDIX 15:

HORIZON YEAR (2050) WITH PROJECT INTERSECTION ANALYSIS

Intersection	
Int Delay, s/veh	24.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	546	18	3	211	18	10
Future Vol, veh/h	546	18	3	211	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	674	22	4	260	22	12

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	185	134	0	0	264	0
Stage 1	134	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	801	920	-	-	1312	-
Stage 1	897	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	787	920	-	-	1312	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	955	-	-	-	-	-

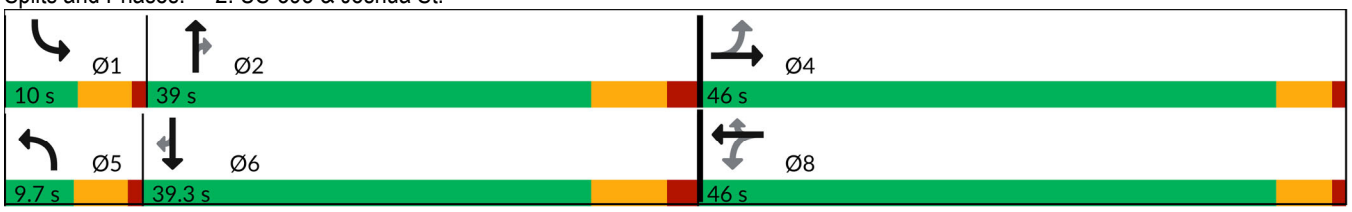
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	34.25	0	5.02
HCM LOS	D		

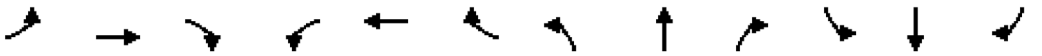
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	783	1312	-
HCM Lane V/C Ratio	-	-	0.889	0.017	-
HCM Ctrl Dly (s/v)	-	-	34.3	7.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	11.6	0.1	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	109	116	376	567	850	39	1458	80	361	1156	423
Future Volume (vph)	109	116	376	567	850	39	1458	80	361	1156	423
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	41.0	41.0	41.0	41.0	41.0	5.0	31.5	31.5	5.3	35.7	35.7
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.05	0.33	0.33	0.06	0.38	0.38
v/c Ratio	0.90	0.24	0.87	0.76	1.19	0.48	1.34	0.15	4.18	0.94	0.64
Control Delay (s/veh)	85.7	14.9	45.3	30.2	123.6	61.7	187.0	5.8	Error	44.2	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	85.7	14.9	45.3	30.2	123.6	61.7	187.0	5.8	Error	44.2	19.9
LOS	F	B	D	C	F	E	F	A	F	D	B
Approach Delay (s/veh)		42.4		77.6			174.7			304.1	
Approach LOS		D		E			F			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 95	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.18	
Intersection Signal Delay (s/veh): 181.8	Intersection LOS: F
Intersection Capacity Utilization 116.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	116	56	376	567	850	39	1458	80	361	1156	423
Future Volume (veh/h)	109	116	56	376	567	850	39	1458	80	361	1156	423
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	120	127	58	413	623	880	43	1602	75	397	1270	434
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	533	243	498	820	695	61	1197	534	96	1269	566
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.04	0.33	0.33	0.06	0.35	0.35
Sat Flow, veh/h	336	1235	564	1154	1900	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	120	0	185	413	623	880	43	1602	75	397	1270	434
Grp Sat Flow(s),veh/h/ln	336	0	1799	1154	1900	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	14.7	0.0	6.2	33.6	26.3	41.0	2.4	31.5	3.1	5.3	33.4	22.7
Cycle Q Clear(g_c), s	41.0	0.0	6.2	39.8	26.3	41.0	2.4	31.5	3.1	5.3	33.4	22.7
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	0	776	498	820	695	61	1197	534	96	1269	566
V/C Ratio(X)	0.94	0.00	0.24	0.83	0.76	1.27	0.70	1.34	0.14	4.15	1.00	0.77
Avail Cap(c_a), veh/h	128	0	776	498	820	695	90	1197	534	96	1269	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	0.0	17.1	29.7	22.8	27.0	45.3	31.7	22.3	44.9	30.8	27.3
Incr Delay (d2), s/veh	60.8	0.0	0.1	10.5	3.7	131.1	10.3	158.0	0.3	1442.3	25.4	7.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	2.4	10.0	11.6	39.6	1.1	38.5	1.1	40.4	17.3	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	105.1	0.0	17.2	40.2	26.6	158.1	55.6	189.7	22.5	1487.2	56.2	34.6
LnGrp LOS	F		B	D	C	F	E	F	C	F	F	C
Approach Vol, veh/h		305			1916			1720			2101	
Approach Delay, s/veh		51.8			89.9			179.1			322.1	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		46.0	8.1	40.9		46.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		43.0	4.4	35.4		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	194.1
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	25.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	132	425	0	0	1677	80	0	0	0	31	0	116
Future Vol, veh/h	132	425	0	0	1677	80	0	0	0	31	0	116
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	152	489	0	0	1928	92	0	0	0	36	0	133

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	2020	0	-	-	-	0		2766	-	1974
Stage 1	-	-	-	-	-	-		1974	-	-
Stage 2	-	-	-	-	-	-		792	-	-
Critical Hdwy	4.1	-	-	-	-	-		6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-		5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-		3.5	-	3.3
Pot Cap-1 Maneuver	286	-	0	0	-	-		~ 22	0	~ 79
Stage 1	-	-	0	0	-	-		120	0	-
Stage 2	-	-	0	0	-	-		450	0	-
Platoon blocked, %		-			-	-				
Mov Cap-1 Maneuver	286	-	-	-	-	-		~ 10	0	~ 79
Mov Cap-2 Maneuver	-	-	-	-	-	-		47	0	-
Stage 1	-	-	-	-	-	-		56	0	-
Stage 2	-	-	-	-	-	-		450	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	7.35	0	$ 395.42
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	286	-	-	-	47	79
HCM Lane V/C Ratio	0.531	-	-	-	0.753	1.691
HCM Ctrl Dly (s/v)	31	-	-	-	195.6	$ 448.8
HCM Lane LOS	D	-	-	-	F	F
HCM 95th %tile Q(veh)	2.9	-	-	-	3	11.3

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	154	159	110	341	348
Future Vol, veh/h	55	154	159	110	341	348
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	193	199	138	426	435

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1179	644	861	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	213	477	789	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	155	477	789	-	-	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	57.63	6.56	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	729	-	308	-	-
HCM Lane V/C Ratio	0.252	-	0.849	-	-
HCM Ctrl Dly (s/v)	11.1	0	57.6	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	1	-	7.4	-	-

Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	13	437	517	133	0	0	0	0	12	41	12
Future Vol, veh/h	0	13	437	517	133	0	0	0	0	12	41	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	14	470	556	143	0	0	0	0	13	44	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	484	0	0	1269	1739	143
Stage 1	-	-	-	-	-	-	1255	1255	-
Stage 2	-	-	-	-	-	-	14	484	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1089	-	0	188	88	910
Stage 1	0	-	-	-	-	0	271	245	-
Stage 2	0	-	-	-	-	0	1014	556	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1089	-	-	84	0	910
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	0	-
Stage 1	-	-	-	-	-	-	271	0	-
Stage 2	-	-	-	-	-	-	452	0	-

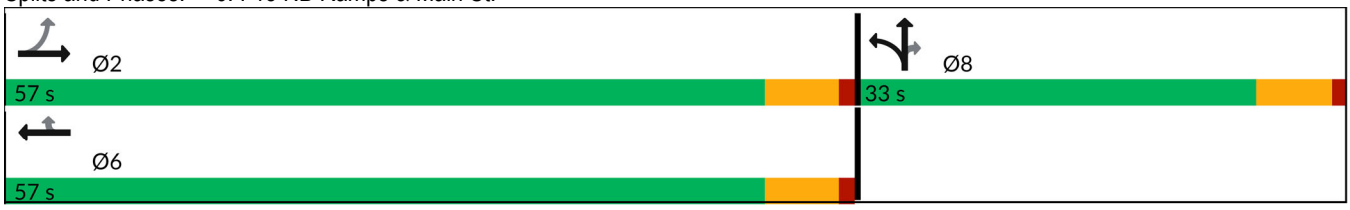
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	9.3	92.85
HCM LOS			F

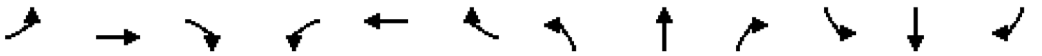
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1003	-	84	910
HCM Lane V/C Ratio	-	-	0.51	-	0.682	0.014
HCM Ctrl Dly (s/v)	-	-	11.7	0	111.8	9
HCM Lane LOS	-	-	B	A	F	A
HCM 95th %tile Q(veh)	-	-	3	-	3.2	0

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	50	1128	1772	699	96	2	451
Future Volume (vph)	50	1128	1772	699	96	2	451
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	57.0	57.0	57.0	57.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		45.8	45.8	45.8	15.7	15.7	15.7
Actuated g/C Ratio		0.62	0.62	0.62	0.21	0.21	0.21
v/c Ratio		0.66	0.59	0.58	0.28	0.64	0.64
Control Delay (s/veh)		10.2	9.7	2.7	27.8	28.6	28.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		10.2	9.7	2.7	27.8	28.6	28.4
LOS		B	A	A	C	C	C
Approach Delay (s/veh)		10.2	7.7			28.4	
Approach LOS		B	A			C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 73.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay (s/veh): 11.0	Intersection LOS: B
Intersection Capacity Utilization 98.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1128	374	0	1772	699	96	2	451	0	0	0
Future Volume (veh/h)	50	1128	374	0	1772	699	96	2	451	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1800	1900	1900			
Adj Flow Rate, veh/h	53	1200	376	0	1885	717	102	0	439			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	98	1960	601	0	3278	1017	320	0	601			
Arrive On Green	0.63	0.63	0.63	0.00	0.63	0.63	0.19	0.00	0.19			
Sat Flow, veh/h	57	3101	952	0	5358	1610	1714	0	3220			
Grp Volume(v), veh/h	393	621	615	0	1885	717	102	0	439			
Grp Sat Flow(s),veh/h/ln	979	1573	1558	0	1729	1610	1714	0	1610			
Q Serve(g_s), s	2.7	15.8	15.9	0.0	13.9	19.5	3.4	0.0	8.5			
Cycle Q Clear(g_c), s	16.6	15.8	15.9	0.0	13.9	19.5	3.4	0.0	8.5			
Prop In Lane	0.13		0.61	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	681	994	984	0	3278	1017	320	0	601			
V/C Ratio(X)	0.58	0.62	0.63	0.00	0.58	0.70	0.32	0.00	0.73			
Avail Cap(c_a), veh/h	770	1215	1202	0	4004	1243	701	0	1316			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.7	7.4	7.4	0.0	7.0	8.1	23.2	0.0	25.3			
Incr Delay (d2), s/veh	0.8	0.7	0.7	0.0	0.2	1.4	0.6	0.0	1.7			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	3.2	3.2	0.0	3.0	4.2	1.3	0.0	3.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	8.1	8.1	0.0	7.2	9.5	23.8	0.0	27.0			
LnGrp LOS	A	A	A		A	A	C		C			
Approach Vol, veh/h		1629			2602			541				
Approach Delay, s/veh		7.7			7.8			26.4				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		47.7				47.7		18.3				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		51.0				51.0		27.0				
Max Q Clear Time (g_c+I1), s		18.6				21.5		10.5				
Green Ext Time (p_c), s		17.1				20.2		1.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.9
HCM 7th LOS	A

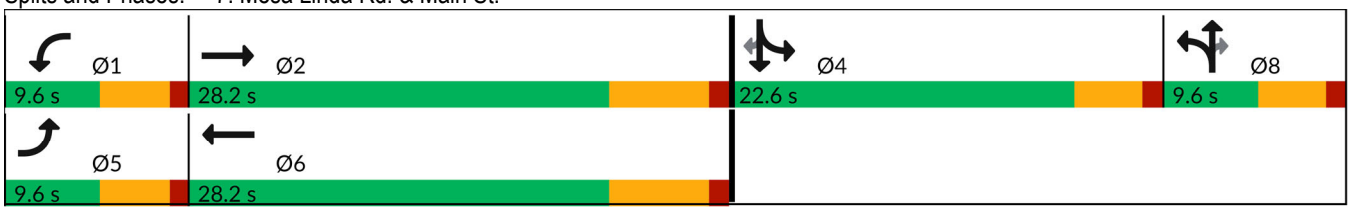
Notes

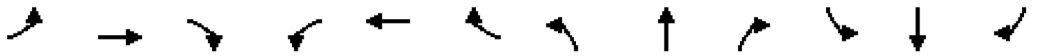
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	1161	154	1253	1	75	0	15
Future Volume (vph)	15	1161	154	1253	1	75	0	15
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	20.3	5.1	28.2	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.35	0.09	0.48	0.09	0.09	0.17	0.17
v/c Ratio	0.11	0.70	1.12	0.55	0.04	0.26	0.14	0.04
Control Delay (s/veh)	28.3	19.1	144.6	12.8	27.0	1.9	23.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.3	19.1	144.6	12.8	27.0	1.9	23.7	0.1
LOS	C	B	F	B	C	A	C	A
Approach Delay (s/veh)		19.3		26.9	3.7		17.3	
Approach LOS		B		C	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 58.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay (s/veh): 22.8	Intersection LOS: C
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1161	8	154	1253	34	5	1	75	40	0	15
Future Volume (veh/h)	15	1161	8	154	1253	34	5	1	75	40	0	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	16	1248	9	166	1347	37	5	1	65	43	0	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	34	1714	12	151	2031	56	90	18	96	320	0	284
Arrive On Green	0.02	0.32	0.32	0.09	0.39	0.39	0.06	0.06	0.06	0.18	0.00	0.18
Sat Flow, veh/h	1714	5313	38	1714	5190	143	1520	304	1610	1810	0	1610
Grp Volume(v), veh/h	16	812	445	166	898	486	6	0	65	43	0	12
Grp Sat Flow(s),veh/h/ln	1714	1729	1893	1714	1729	1874	1824	0	1610	1810	0	1610
Q Serve(g_s), s	0.5	11.8	11.8	5.0	12.1	12.1	0.2	0.0	2.2	1.1	0.0	0.4
Cycle Q Clear(g_c), s	0.5	11.8	11.8	5.0	12.1	12.1	0.2	0.0	2.2	1.1	0.0	0.4
Prop In Lane	1.00		0.02	1.00		0.08	0.83		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	1116	611	151	1353	733	108	0	96	320	0	284
V/C Ratio(X)	0.48	0.73	0.73	1.10	0.66	0.66	0.06	0.00	0.68	0.13	0.00	0.04
Avail Cap(c_a), veh/h	151	1343	735	151	1353	733	161	0	142	575	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	17.0	17.0	25.8	14.2	14.2	25.1	0.0	26.1	19.7	0.0	19.3
Incr Delay (d2), s/veh	3.8	1.6	2.9	101.4	1.2	2.3	0.1	0.0	3.1	0.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.9	4.5	6.0	3.7	4.3	0.1	0.0	0.8	0.5	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	18.6	19.9	127.3	15.4	16.4	25.2	0.0	29.2	19.9	0.0	19.4
LnGrp LOS	C	B	B	F	B	B	C		C	B		B
Approach Vol, veh/h		1273			1550			71			55	
Approach Delay, s/veh		19.2			27.7			28.9			19.8	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	24.5		14.6	5.7	28.4		8.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	7.0	13.8		3.1	2.5	14.1		4.2				
Green Ext Time (p_c), s	0.0	4.5		0.1	0.0	4.7		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.9	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	569	31	199	102	36	65
Future Vol, veh/h	569	31	199	102	36	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	677	37	237	121	43	77

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	714	0	1273	677
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	595	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	895	-	187	456
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	895	-	137	456
Mov Cap-2 Maneuver	-	-	-	-	268	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	408	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6.92	19.64
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	365	-	-	895	-
HCM Lane V/C Ratio	0.33	-	-	0.265	-
HCM Ctrl Dly (s/v)	19.6	-	-	10.5	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.4	-	-	1.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	31	35	111	198	28
Future Vol, veh/h	7	31	35	111	198	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	38	43	137	244	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	468	244	279	0	-	0
Stage 1	244	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	557	799	1295	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	818	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	539	799	1295	-	-	-
Mov Cap-2 Maneuver	608	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	818	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.08	1.89	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1295	-	756	-	-
HCM Lane V/C Ratio	0.033	-	0.062	-	-
HCM Ctrl Dly (s/v)	7.9	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	149	27	13	455	31	3
Future Vol, veh/h	149	27	13	455	31	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	280	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	261	47	23	798	54	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	533	422	0	0	821	0
Stage 1	422	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	496	636	-	-	817	-
Stage 1	666	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	463	636	-	-	817	-
Mov Cap-2 Maneuver	544	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	847	-	-	-	-	-

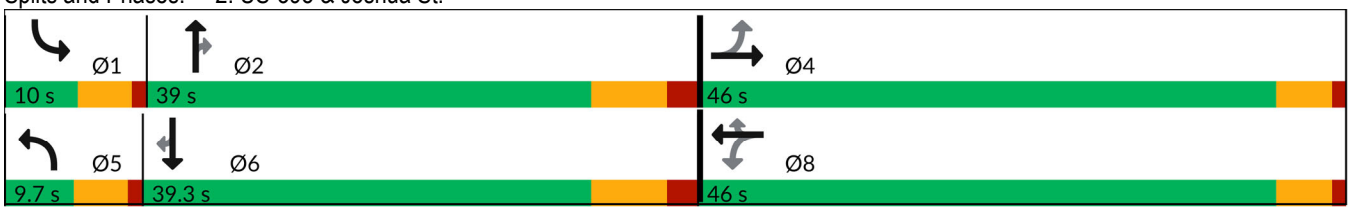
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	19.26	0	8.87
HCM LOS	C		

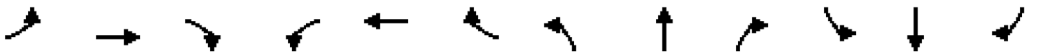
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	556	817	-
HCM Lane V/C Ratio	-	-	0.555	0.067	-
HCM Ctrl Dly (s/v)	-	-	19.3	9.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.4	0.2	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	230	463	92	111	536	80	1509	191	454	1550	181
Future Volume (vph)	230	463	92	111	536	80	1509	191	454	1550	181
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		8		5	2		1	6	
Permitted Phases	4		8		8			2			6
Detector Phase	4	4	8	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	46.0	9.7	38.5	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	46.0	9.7	39.0	39.0	10.0	39.3	39.3
Total Split (%)	48.4%	48.4%	48.4%	48.4%	48.4%	10.2%	41.1%	41.1%	10.5%	41.4%	41.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.7	5.5	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.7	7.5	7.5	4.7	7.5	7.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	27.7	27.7	27.7	27.7	27.7	5.1	31.8	31.8	5.4	32.1	32.1
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.06	0.39	0.39	0.07	0.39	0.39
v/c Ratio	0.59	0.82	0.92	0.18	0.88	0.80	1.14	0.27	4.31	1.16	0.26
Control Delay (s/veh)	28.0	35.9	95.7	18.9	33.8	90.5	98.0	4.4	Error	105.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.0	35.9	95.7	18.9	33.8	90.5	98.0	4.4	Error	105.9	7.0
LOS	C	D	F	B	C	F	F	A	F	F	A
Approach Delay (s/veh)		33.4		39.3			87.6			392.5	
Approach LOS		C		D			F			F	

Intersection Summary	
Cycle Length: 95	
Actuated Cycle Length: 82.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 4.31	
Intersection Signal Delay (s/veh): 196.5	Intersection LOS: F
Intersection Capacity Utilization 118.6%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	463	35	92	111	536	80	1509	191	454	1550	181
Future Volume (veh/h)	230	463	35	92	111	536	80	1509	191	454	1550	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	242	487	35	97	117	532	84	1588	173	478	1632	180
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	347	689	50	216	747	633	96	1278	570	102	1290	575
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.06	0.35	0.35	0.06	0.36	0.36
Sat Flow, veh/h	753	1751	126	847	1900	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	242	0	522	97	117	532	84	1588	173	478	1632	180
Grp Sat Flow(s),veh/h/ln	753	0	1877	847	1900	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	27.3	0.0	20.8	9.7	3.5	26.6	4.3	31.5	6.9	5.3	31.8	7.2
Cycle Q Clear(g_c), s	30.8	0.0	20.8	30.5	3.5	26.6	4.3	31.5	6.9	5.3	31.8	7.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	0	738	216	747	633	96	1278	570	102	1290	575
V/C Ratio(X)	0.70	0.00	0.71	0.45	0.16	0.84	0.87	1.24	0.30	4.68	1.27	0.31
Avail Cap(c_a), veh/h	398	0	865	273	875	742	96	1278	570	102	1290	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	0.0	22.7	35.5	17.5	24.5	41.7	28.8	20.8	41.9	28.6	20.7
Incr Delay (d2), s/veh	3.3	0.0	1.6	0.5	0.0	6.6	52.4	116.1	0.6	1679.4	125.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	8.7	1.9	1.5	10.4	3.1	32.4	2.4	49.7	34.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	0.0	24.3	36.0	17.5	31.0	94.1	144.9	21.5	1721.2	154.3	21.4
LnGrp LOS	C		C	D	B	C	F	F	C	F	F	C
Approach Vol, veh/h		764			746			1845			2290	
Approach Delay, s/veh		26.3			29.6			131.0			470.9	
Approach LOS		C			C			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	39.0		40.0	9.7	39.3		40.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	5.3	31.5		41.0	5.0	31.8		41.0				
Max Q Clear Time (g_c+I1), s	7.3	33.5		32.8	6.3	33.8		32.5				
Green Ext Time (p_c), s	0.0	0.0		2.2	0.0	0.0		1.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			241.3									
HCM 7th LOS			F									

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	335	773	0	0	552	116	0	0	0	35	0	187
Future Vol, veh/h	335	773	0	0	552	116	0	0	0	35	0	187
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	360	831	0	0	594	125	0	0	0	38	0	201

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	719	0	-	-	-	0			2209	-	657
Stage 1	-	-	-	-	-	-			657	-	-
Stage 2	-	-	-	-	-	-			1552	-	-
Critical Hdwy	4.1	-	-	-	-	-			6.4	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	-	-
Follow-up Hdwy	2.2	-	-	-	-	-			3.5	-	3.3
Pot Cap-1 Maneuver	891	-	0	0	-	-			49	0	468
Stage 1	-	-	0	0	-	-			520	0	-
Stage 2	-	-	0	0	-	-			194	0	-
Platoon blocked, %		-			-	-					
Mov Cap-1 Maneuver	891	-	-	-	-	-			~ 29	0	468
Mov Cap-2 Maneuver	-	-	-	-	-	-			121	0	-
Stage 1	-	-	-	-	-	-			309	0	-
Stage 2	-	-	-	-	-	-			194	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.56	0	22.94
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	891	-	-	-	121	468
HCM Lane V/C Ratio	0.404	-	-	-	0.31	0.43
HCM Ctrl Dly (s/v)	11.8	-	-	-	47.4	18.4
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	2	-	-	-	1.2	2.1

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	23.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	299	64	74	241	176	71
Future Vol, veh/h	299	64	74	241	176	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	332	71	82	268	196	79

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	667	235	274	0	-	0
Stage 1	235	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	427	809	1300	-	-	-
Stage 1	809	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	395	809	1300	-	-	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	58.2	1.87	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	423	-	434	-	-
HCM Lane V/C Ratio	0.063	-	0.929	-	-
HCM Ctrl Dly (s/v)	8	0	58.2	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.2	-	10.5	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	15	152	179	160	0	0	0	0	9	9	0
Future Vol, veh/h	0	15	152	179	160	0	0	0	0	9	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	615	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	16	167	197	176	0	0	0	0	10	10	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	184	0	0	586	753	176
Stage 1	-	-	-	-	-	-	569	569	-
Stage 2	-	-	-	-	-	-	16	184	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1404	-	0	476	341	873
Stage 1	0	-	-	-	-	0	570	509	-
Stage 2	0	-	-	-	-	0	1012	752	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1404	-	-	402	0	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	0	-
Stage 1	-	-	-	-	-	-	570	0	-
Stage 2	-	-	-	-	-	-	854	0	-

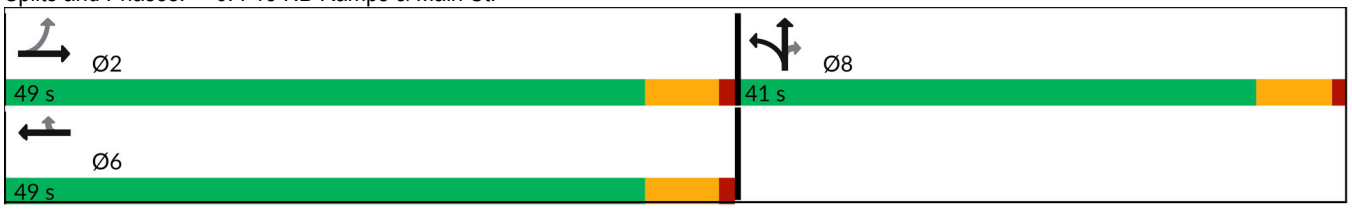
Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	4.21	14.41
HCM LOS			B

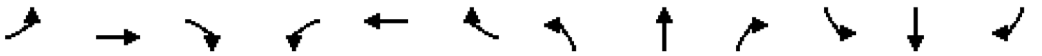
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	950	-	402	-
HCM Lane V/C Ratio	-	-	0.14	-	0.049	-
HCM Ctrl Dly (s/v)	-	-	8	0	14.4	0
HCM Lane LOS	-	-	A	A	B	A
HCM 95th %tile Q(veh)	-	-	0.5	-	0.2	-

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations							
Traffic Volume (vph)	18	2106	1511	532	352	8	819
Future Volume (vph)	18	2106	1511	532	352	8	819
Turn Type	Perm	NA	NA	Perm	Split	NA	Perm
Protected Phases		2	6		8	8	
Permitted Phases	2			6			8
Detector Phase	2	2	6	6	8	8	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	10.0	10.0
Minimum Split (s)	34.0	34.0	34.0	34.0	22.6	22.6	22.6
Total Split (s)	49.0	49.0	49.0	49.0	41.0	41.0	41.0
Total Split (%)	54.4%	54.4%	54.4%	54.4%	45.6%	45.6%	45.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	Min	Min	Min
Act Effct Green (s)		43.3	43.3	43.3	29.0	29.0	29.0
Actuated g/C Ratio		0.51	0.51	0.51	0.34	0.34	0.34
v/c Ratio		1.07	0.59	0.50	0.62	0.81	0.77
Control Delay (s/veh)		61.7	16.3	3.1	27.7	37.8	32.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		61.7	16.3	3.1	27.7	37.8	32.3
LOS		E	B	A	C	D	C
Approach Delay (s/veh)		61.7	12.9			32.9	
Approach LOS		E	B			C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 84.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay (s/veh): 38.3	Intersection LOS: D
Intersection Capacity Utilization 114.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 6: I-15 NB Ramps & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	2106	355	0	1511	532	352	8	819	0	0	0
Future Volume (veh/h)	18	2106	355	0	1511	532	352	8	819	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	1900	0	1900	1900	1800	1900	1900			
Adj Flow Rate, veh/h	19	2171	366	0	1558	548	363	0	849			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	53	2256	372	0	2759	857	548	0	1029			
Arrive On Green	0.53	0.53	0.53	0.00	0.53	0.53	0.32	0.00	0.32			
Sat Flow, veh/h	14	4242	699	0	5358	1610	1714	0	3220			
Grp Volume(v), veh/h	926	790	840	0	1558	548	363	0	849			
Grp Sat Flow(s),veh/h/ln	1778	1573	1603	0	1729	1610	1714	0	1610			
Q Serve(g_s), s	16.0	38.2	41.6	0.0	16.2	19.5	14.8	0.0	19.7			
Cycle Q Clear(g_c), s	40.7	38.2	41.6	0.0	16.2	19.5	14.8	0.0	19.7			
Prop In Lane	0.02		0.44	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	991	837	853	0	2759	857	548	0	1029			
V/C Ratio(X)	0.93	0.94	0.98	0.00	0.56	0.64	0.66	0.00	0.82			
Avail Cap(c_a), veh/h	991	837	853	0	2759	857	742	0	1394			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	17.6	17.8	18.6	0.0	12.7	13.4	23.7	0.0	25.4			
Incr Delay (d2), s/veh	15.3	18.9	26.9	0.0	0.3	1.6	1.4	0.0	3.1			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.4	15.1	18.3	0.0	5.1	6.0	5.6	0.0	7.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.9	36.7	45.5	0.0	12.9	15.0	25.1	0.0	28.5			
LnGrp LOS	C	D	D		B	B	C		C			
Approach Vol, veh/h		2556			2106			1212				
Approach Delay, s/veh		38.2			13.5			27.5				
Approach LOS		D			B			C				

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		49.0				49.0		31.8				
Change Period (Y+Rc), s		6.0				6.0		6.0				
Max Green Setting (Gmax), s		43.0				43.0		35.0				
Max Q Clear Time (g_c+I1), s		43.6				21.5		21.7				
Green Ext Time (p_c), s		0.0				13.1		4.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			27.1									
HCM 7th LOS			C									

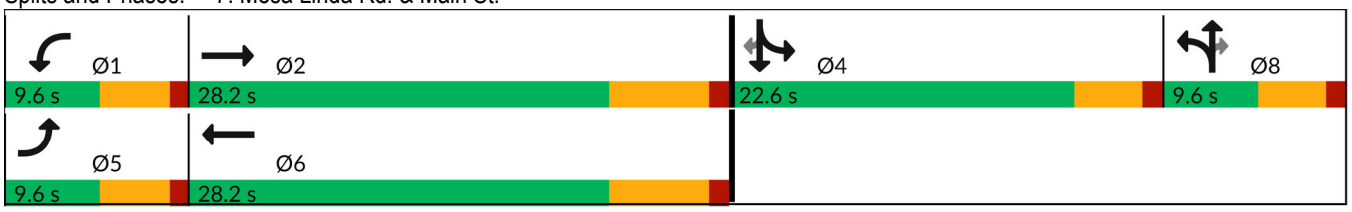
Notes

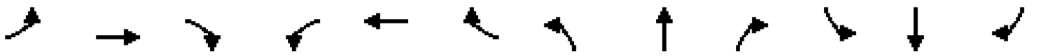
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	17	1331	106	932	5	292	2	5
Future Volume (vph)	17	1331	106	932	5	292	2	5
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.0	22.0	5.0	29.7	5.0	5.0	10.0	10.0
Actuated g/C Ratio	0.08	0.35	0.08	0.48	0.08	0.08	0.16	0.16
v/c Ratio	0.15	0.87	0.91	0.46	0.36	0.77	0.10	0.01
Control Delay (s/veh)	29.2	25.2	91.1	12.2	34.2	17.8	23.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.2	25.2	91.1	12.2	34.2	17.8	23.2	0.0
LOS	C	C	F	B	C	B	C	A
Approach Delay (s/veh)		25.3		20.0	20.0		19.1	
Approach LOS		C		B	B		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 62	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 22.5	Intersection LOS: C
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	1331	23	106	932	40	39	5	292	22	2	5
Future Volume (veh/h)	17	1331	23	106	932	40	39	5	292	22	2	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	20	1566	26	125	1096	46	46	6	283	26	2	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	1825	30	140	2069	87	131	17	131	275	21	263
Arrive On Green	0.02	0.35	0.35	0.08	0.41	0.41	0.08	0.08	0.08	0.16	0.16	0.16
Sat Flow, veh/h	1714	5255	87	1714	5105	214	1610	210	1610	1686	130	1610
Grp Volume(v), veh/h	20	1030	562	125	742	400	52	0	283	28	0	4
Grp Sat Flow(s),veh/h/ln	1714	1729	1884	1714	1729	1861	1820	0	1610	1816	0	1610
Q Serve(g_s), s	0.7	17.0	17.0	4.4	10.0	10.0	1.7	0.0	5.0	0.8	0.0	0.1
Cycle Q Clear(g_c), s	0.7	17.0	17.0	4.4	10.0	10.0	1.7	0.0	5.0	0.8	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.12	0.88		1.00	0.93		1.00
Lane Grp Cap(c), veh/h	40	1201	654	140	1402	755	148	0	131	296	0	263
V/C Ratio(X)	0.50	0.86	0.86	0.89	0.53	0.53	0.35	0.00	2.15	0.09	0.00	0.02
Avail Cap(c_a), veh/h	140	1241	676	140	1402	755	148	0	131	533	0	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	18.6	18.6	27.9	13.8	13.8	26.6	0.0	28.1	21.8	0.0	21.5
Incr Delay (d2), s/veh	3.5	6.1	10.5	44.9	0.4	0.7	0.5	0.0	543.8	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.4	7.8	3.3	3.1	3.4	0.6	0.0	21.5	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.0	24.7	29.1	72.8	14.2	14.5	27.1	0.0	571.9	21.9	0.0	21.5
LnGrp LOS	C	C	C	E	B	B	C		F	C		C
Approach Vol, veh/h		1612			1267			335			32	
Approach Delay, s/veh		26.3			20.1			487.4			21.9	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	27.5		14.6	6.0	31.0		9.6				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	6.4	19.0		2.8	2.7	12.0		7.0				
Green Ext Time (p_c), s	0.0	2.3		0.1	0.0	4.7		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	71.4
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	382	42	58	506	43	61
Future Vol, veh/h	382	42	58	506	43	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	531	58	81	703	60	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	589	0	1394	531
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	864	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	996	-	157	552
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	416	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	996	-	145	552
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.92	19.62
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	-	-	996	-
HCM Lane V/C Ratio	0.371	-	-	0.081	-
HCM Ctrl Dly (s/v)	19.6	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.7	-	-	0.3	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	47	16	60	119	15
Future Vol, veh/h	29	47	16	60	119	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	31	50	17	64	127	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	224	127	143	0	-	0
Stage 1	127	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	768	929	1453	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	759	929	1453	-	-	-
Mov Cap-2 Maneuver	762	-	-	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	931	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.64	1.58	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1453	-	857	-	-
HCM Lane V/C Ratio	0.012	-	0.094	-	-
HCM Ctrl Dly (s/v)	7.5	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

APPENDIX 16:

HORIZON YEAR (2050) WITHOUT PROJECT TRAFFIC SIGNAL WARRANTS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

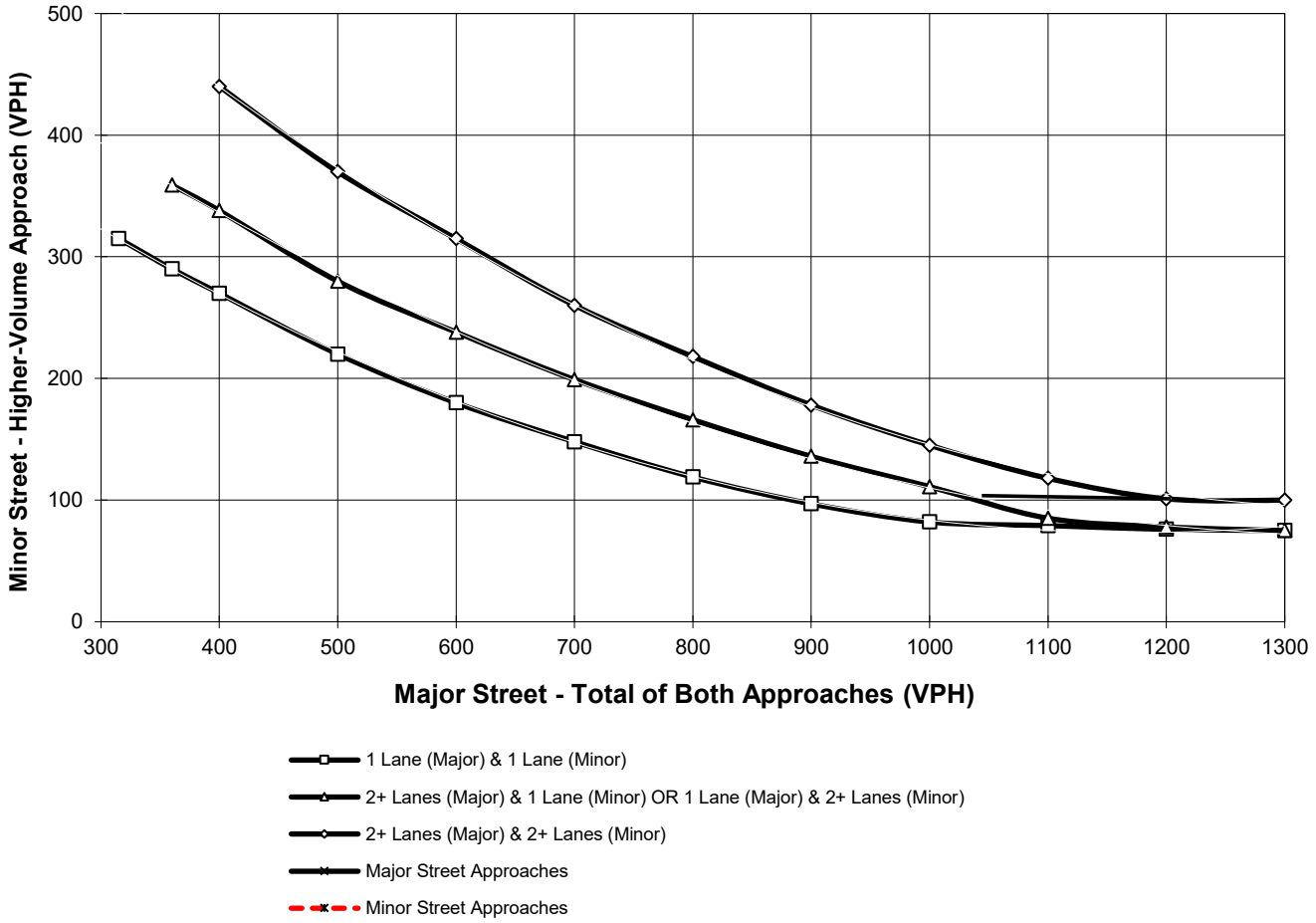
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2050 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.** Total of Both Approaches (VPH) = **213**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.** High Volume Approach (VPH) = **434**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

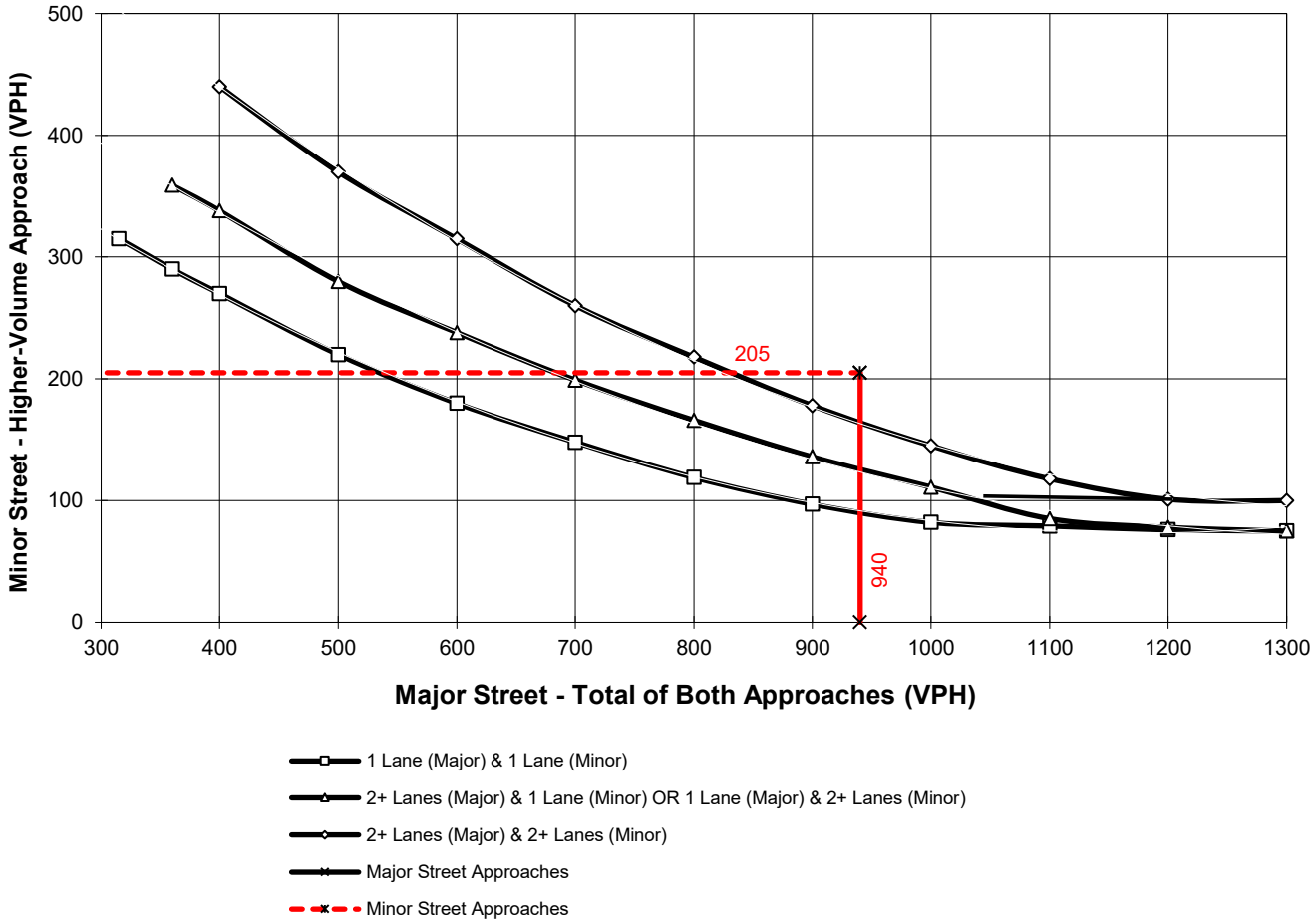
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2050 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Mariposa Rd.**
Total of Both Approaches (VPH) = **940**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Joshua St.**
High Volume Approach (VPH) = **205**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

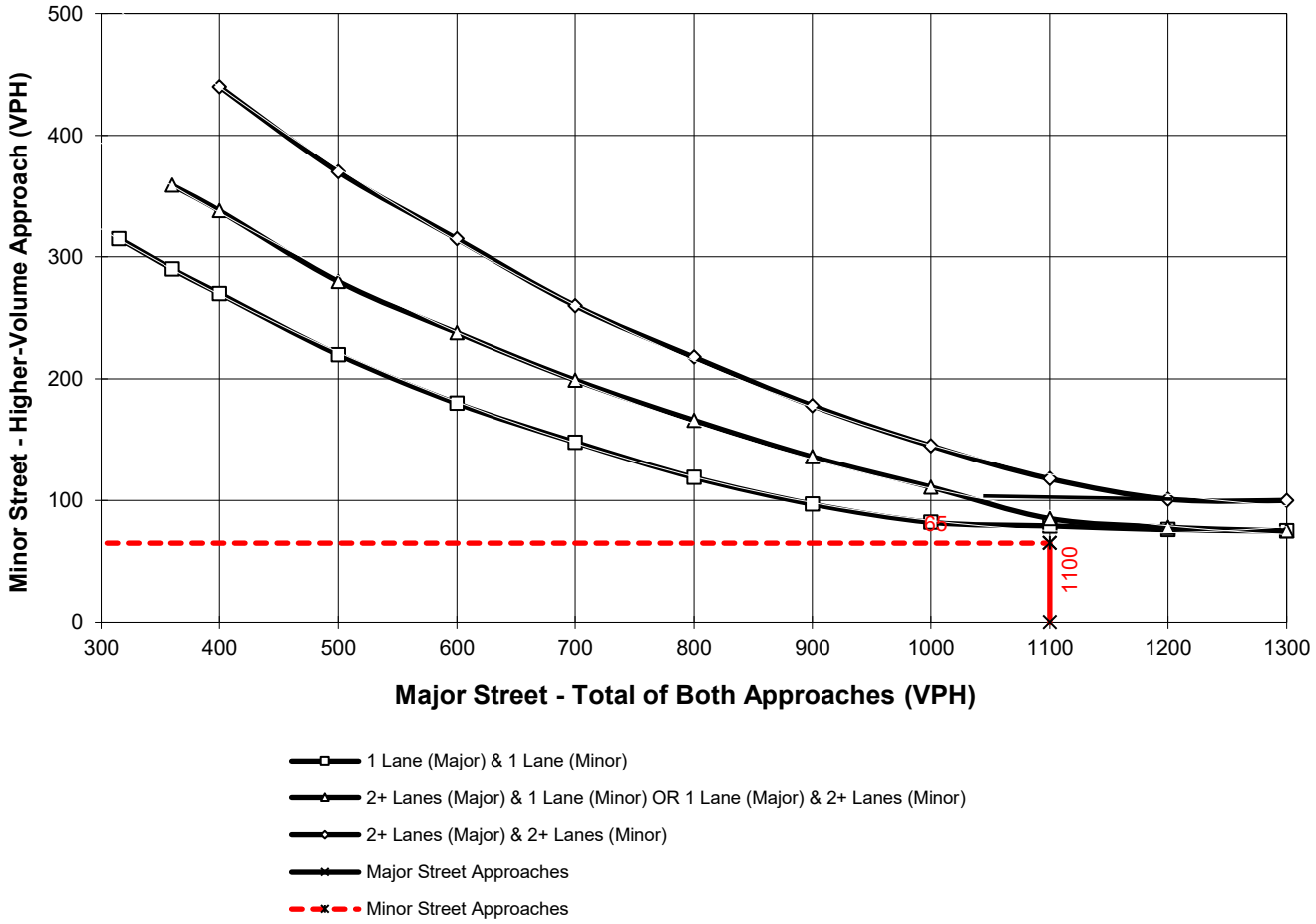
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2050 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Oak Hill Rd.** Total of Both Approaches (VPH) = **1100**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-15 SB Ramps** High Volume Approach (VPH) = **65**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

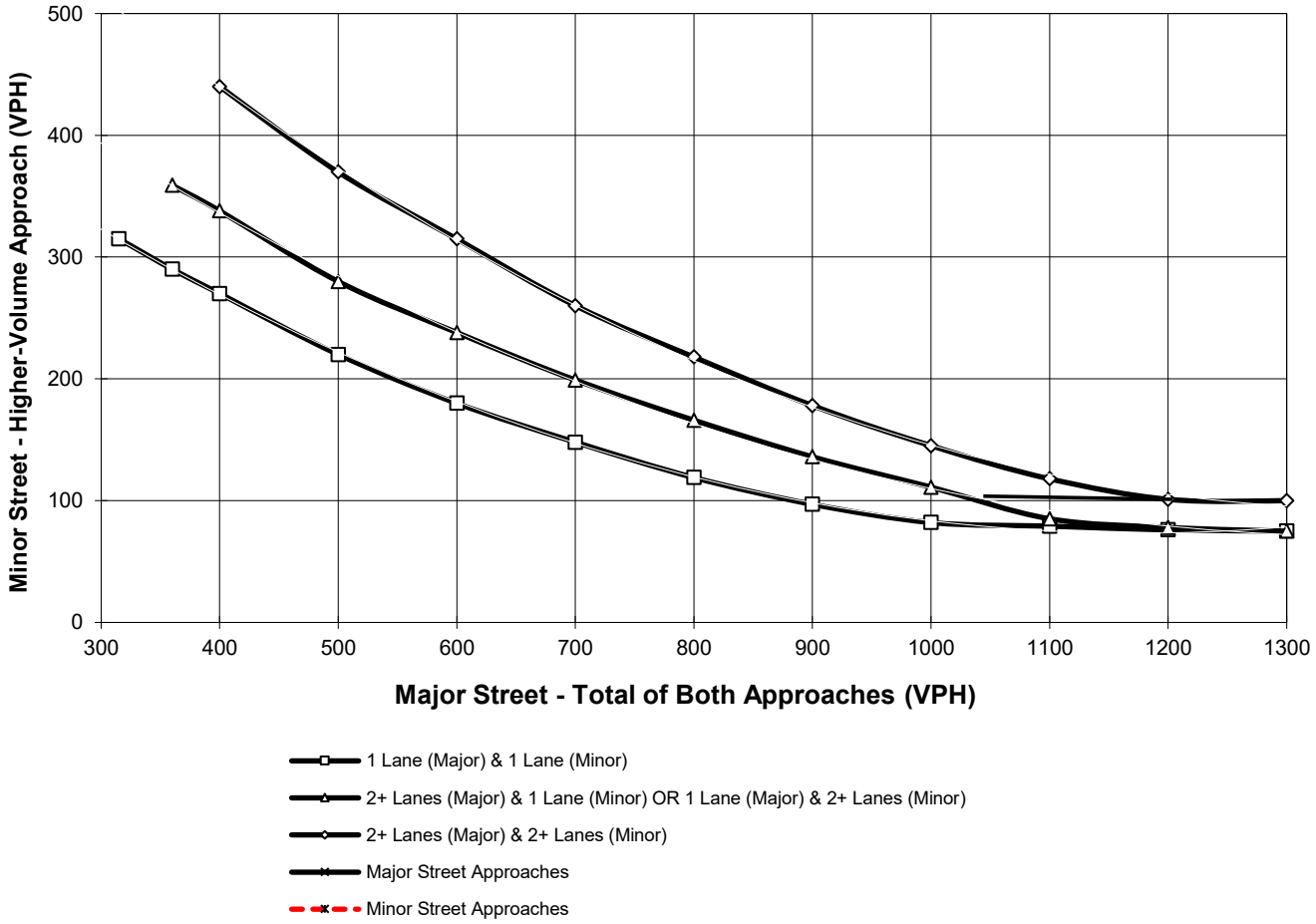
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2050 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.** Total of Both Approaches (VPH) = **244**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Driveway** High Volume Approach (VPH) = **22**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 17:

HORIZON YEAR (2050) WITH PROJECT TRAFFIC SIGNAL WARRANTS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

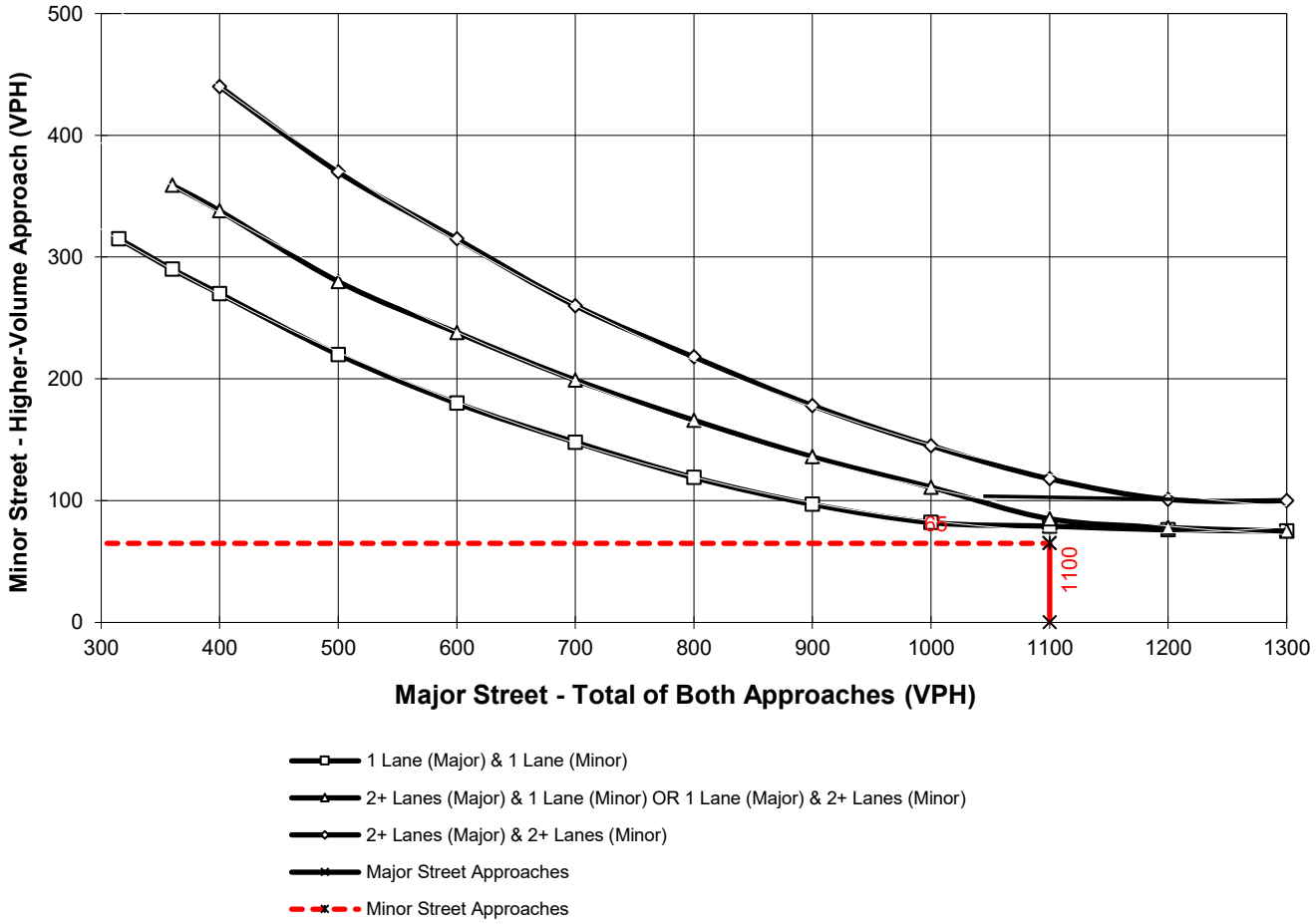
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2050 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Oak Hill Rd.**
Total of Both Approaches (VPH) = **1100**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **I-15 SB Ramps**
High Volume Approach (VPH) = **65**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

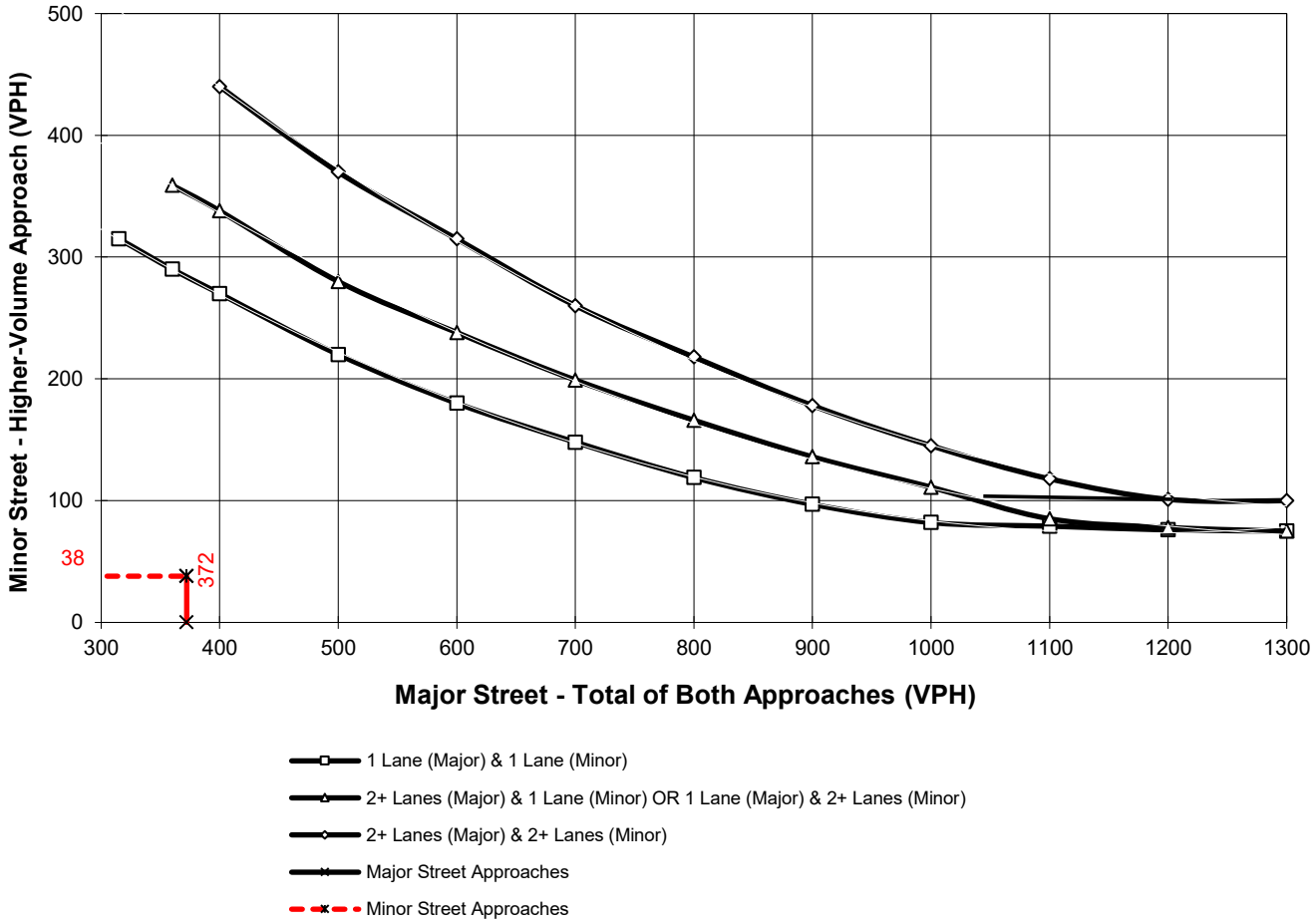
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **2050 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Caliente Rd.** Total of Both Approaches (VPH) = **372**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Driveway** High Volume Approach (VPH) = **38**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

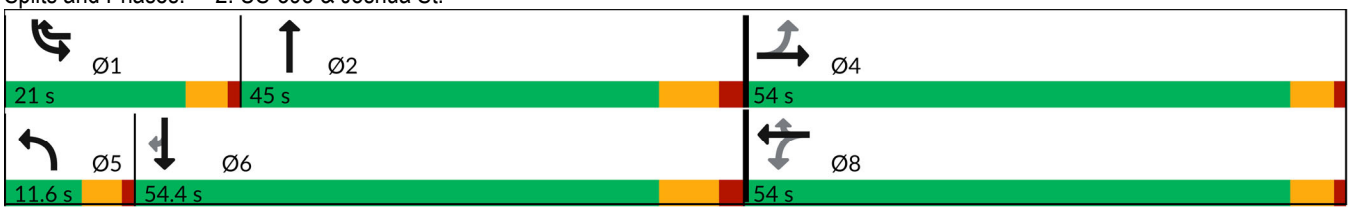
APPENDIX 18:

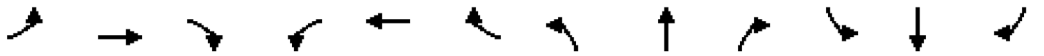
HORIZON YEAR (2050) WITH PROJECT INTERSECTION ANALYSIS WITH IMPROVEMENTS

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	109	116	376	567	850	39	1458	361	1156	423
Future Volume (vph)	109	116	376	567	850	39	1458	361	1156	423
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	1	5	2	1	6	
Permitted Phases	4		8		8					6
Detector Phase	4	4	8	8	1	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	9.7	9.7	38.5	9.7	38.5	38.5
Total Split (s)	54.0	54.0	54.0	54.0	21.0	11.6	45.0	21.0	54.4	54.4
Total Split (%)	45.0%	45.0%	45.0%	45.0%	17.5%	9.7%	37.5%	17.5%	45.3%	45.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.7	4.7	7.5	4.7	7.5	7.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	49.0	49.0	49.0	49.0	70.3	6.5	37.5	16.3	49.3	49.3
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.59	0.05	0.31	0.14	0.41	0.41
v/c Ratio	1.18	0.25	0.49	0.80	0.97	0.47	1.05	0.88	0.86	0.61
Control Delay (s/veh)	179.0	21.2	28.7	40.8	46.3	71.6	76.4	72.6	39.9	20.9
Queue Delay	0.0	0.0	19.3	54.7	42.4	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	179.0	21.2	48.0	95.4	88.7	71.6	76.4	72.6	39.9	20.9
LOS	F	C	D	F	F	E	E	E	D	C
Approach Delay (s/veh)		82.5		82.3			76.2		41.8	
Approach LOS		F		F			E		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay (s/veh): 66.6	Intersection LOS: E
Intersection Capacity Utilization 103.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	116	56	376	567	850	39	1458	80	361	1156	423
Future Volume (veh/h)	109	116	56	376	567	850	39	1458	80	361	1156	423
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	120	127	58	413	623	880	43	1602	75	397	1270	434
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	101	505	231	884	777	875	54	1590	74	447	1500	669
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.03	0.31	0.31	0.13	0.42	0.42
Sat Flow, veh/h	336	1235	564	2238	1900	1610	1714	5078	238	3326	3610	1610
Grp Volume(v), veh/h	120	0	185	413	623	880	43	1091	586	397	1270	434
Grp Sat Flow(s),veh/h/ln	336	0	1799	1119	1900	1610	1714	1729	1857	1663	1805	1610
Q Serve(g_s), s	14.5	0.0	8.1	17.9	34.5	49.0	3.0	37.5	37.5	14.1	38.0	25.8
Cycle Q Clear(g_c), s	49.0	0.0	8.1	26.0	34.5	49.0	3.0	37.5	37.5	14.1	38.0	25.8
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	101	0	736	884	777	875	54	1083	581	447	1500	669
V/C Ratio(X)	1.19	0.00	0.25	0.47	0.80	1.01	0.79	1.01	1.01	0.89	0.85	0.65
Avail Cap(c_a), veh/h	101	0	736	884	777	875	99	1083	581	453	1500	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	23.3	31.9	31.1	27.3	57.6	41.1	41.1	51.0	31.6	28.0
Incr Delay (d2), s/veh	150.3	0.0	0.1	0.1	5.6	31.9	16.9	29.2	39.4	18.6	5.1	3.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	3.4	4.7	16.3	30.5	1.5	19.2	22.3	6.7	16.2	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	207.3	0.0	23.4	32.0	36.7	59.2	74.5	70.4	80.5	69.6	36.7	31.0
LnGrp LOS	F		C	C	D	F	E	F	F	E	D	C
Approach Vol, veh/h		305			1916			1720			2101	
Approach Delay, s/veh		95.7			46.0			73.9			41.7	
Approach LOS		F			D			E			D	

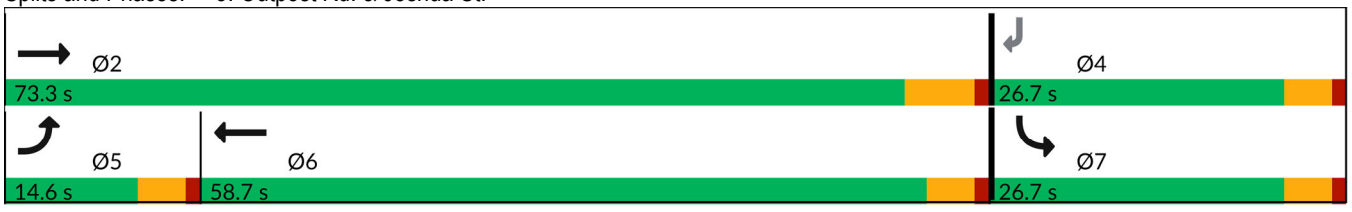
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.8	45.0		54.0	8.5	57.3		54.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	16.3	37.5		49.0	6.9	46.9		49.0				
Max Q Clear Time (g_c+I1), s	16.1	39.5		51.0	5.0	40.0		51.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.1		0.0				

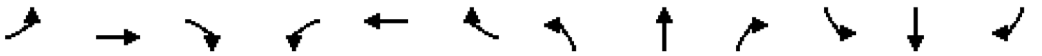
Intersection Summary												
HCM 7th Control Delay, s/veh			55.0									
HCM 7th LOS			D									

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	132	425	1677	31	116
Future Volume (vph)	132	425	1677	31	116
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	7	
Permitted Phases					4
Detector Phase	5	2	6	7	4
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	24.2	26.6	9.6	26.6
Total Split (s)	14.6	73.3	58.7	26.7	26.7
Total Split (%)	14.6%	73.3%	58.7%	26.7%	26.7%
Yellow Time (s)	3.6	5.2	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	None	Min	None	Min
Act Effct Green (s)	9.9	67.2	54.2	10.5	12.2
Actuated g/C Ratio	0.11	0.75	0.60	0.12	0.14
v/c Ratio	0.81	0.18	0.94	0.18	0.40
Control Delay (s/veh)	71.7	4.0	27.1	36.2	10.0
Queue Delay	0.0	1.1	0.0	0.0	0.0
Total Delay (s/veh)	71.7	5.1	27.1	36.2	10.0
LOS	E	A	C	D	B
Approach Delay (s/veh)		20.9	27.1		
Approach LOS		C	C		

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 90.2	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay (s/veh): 25.0	Intersection LOS: C
Intersection Capacity Utilization 71.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Outpost Rd. & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	425	0	0	1677	80	0	0	0	31	0	116
Future Volume (veh/h)	132	425	0	0	1677	80	0	0	0	31	0	116
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1800	1900	0	0	1900	1900				1800	0	1900
Adj Flow Rate, veh/h	152	489	0	0	1928	92				36	0	133
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	184	2774	0	0	2132	101				182	0	171
Arrive On Green	0.11	0.77	0.00	0.00	0.61	0.61				0.11	0.00	0.11
Sat Flow, veh/h	1714	3705	0	0	3604	166				1714	0	1610
Grp Volume(v), veh/h	152	489	0	0	984	1036				36	0	133
Grp Sat Flow(s),veh/h/ln	1714	1805	0	0	1805	1870				1714	0	1610
Q Serve(g_s), s	7.5	3.1	0.0	0.0	40.5	42.0				1.7	0.0	6.9
Cycle Q Clear(g_c), s	7.5	3.1	0.0	0.0	40.5	42.0				1.7	0.0	6.9
Prop In Lane	1.00		0.00	0.00		0.09				1.00		1.00
Lane Grp Cap(c), veh/h	184	2774	0	0	1097	1136				182	0	171
V/C Ratio(X)	0.83	0.18	0.00	0.00	0.90	0.91				0.20	0.00	0.78
Avail Cap(c_a), veh/h	199	2811	0	0	1133	1174				440	0	413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	37.7	2.7	0.0	0.0	14.6	14.9				35.2	0.0	37.5
Incr Delay (d2), s/veh	20.8	0.0	0.0	0.0	9.4	10.5				0.5	0.0	7.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.6	0.0	0.0	16.0	17.4				0.7	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	2.7	0.0	0.0	24.0	25.4				35.7	0.0	44.9
LnGrp LOS	E	A			C	C				D		D
Approach Vol, veh/h		641			2020						169	
Approach Delay, s/veh		15.9			24.7						42.9	
Approach LOS		B			C						D	

Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		72.4		13.8	13.8	58.6						
Change Period (Y+Rc), s		6.2		4.6	4.6	* 6.2						
Max Green Setting (Gmax), s		67.1		22.1	10.0	* 54						
Max Q Clear Time (g_c+I1), s		5.1		8.9	9.5	44.0						
Green Ext Time (p_c), s		3.4		0.4	0.0	8.4						

Intersection Summary		
HCM 7th Control Delay, s/veh	23.8	
HCM 7th LOS	C	

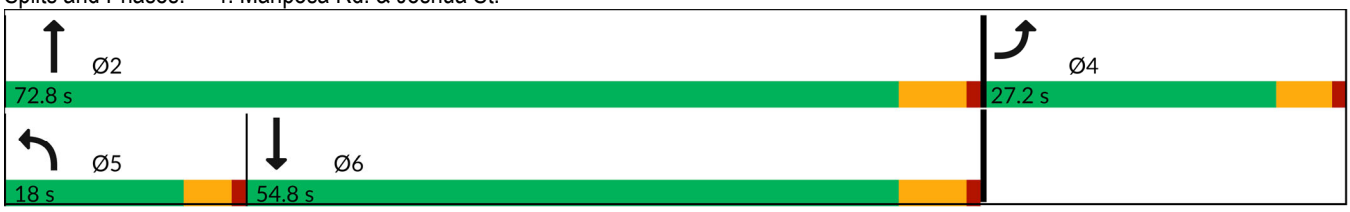
Notes

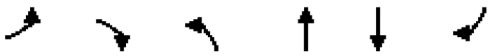
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	55	159	110	341
Future Volume (vph)	55	159	110	341
Turn Type	Prot	Prot	NA	NA
Protected Phases	4	5	2	6
Permitted Phases				
Detector Phase	4	5	2	6
Switch Phase				
Minimum Initial (s)	10.0	5.0	10.0	10.0
Minimum Split (s)	27.2	9.6	24.2	24.2
Total Split (s)	27.2	18.0	72.8	54.8
Total Split (%)	27.2%	18.0%	72.8%	54.8%
Yellow Time (s)	4.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	4.6	6.2	6.2
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	None	None	Min	None
Act Effct Green (s)	14.3	12.8	63.0	45.5
Actuated g/C Ratio	0.16	0.14	0.71	0.51
v/c Ratio	0.72	0.81	0.10	0.91
Control Delay (s/veh)	30.1	64.3	4.8	34.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.1	64.3	4.8	34.9
LOS	C	E	A	C
Approach Delay (s/veh)	30.1		39.9	34.9
Approach LOS	C		D	C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 88.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 35.2	Intersection LOS: D
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Mariposa Rd. & Joshua St.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	154	159	110	341	348
Future Volume (veh/h)	55	154	159	110	341	348
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1800	1900	1800	1900	1900	1900
Adj Flow Rate, veh/h	69	192	199	138	426	435
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	78	216	230	1315	439	448
Arrive On Green	0.19	0.19	0.13	0.69	0.51	0.51
Sat Flow, veh/h	414	1152	1714	1900	862	880
Grp Volume(v), veh/h	262	0	199	138	0	861
Grp Sat Flow(s),veh/h/ln	1572	0	1714	1900	0	1742
Q Serve(g_s), s	15.3	0.0	10.7	2.3	0.0	45.3
Cycle Q Clear(g_c), s	15.3	0.0	10.7	2.3	0.0	45.3
Prop In Lane	0.26	0.73	1.00			0.51
Lane Grp Cap(c), veh/h	294	0	230	1315	0	886
V/C Ratio(X)	0.89	0.00	0.86	0.10	0.00	0.97
Avail Cap(c_a), veh/h	366	0	243	1341	0	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.4	0.0	40.0	4.8	0.0	22.5
Incr Delay (d2), s/veh	19.6	0.0	23.8	0.0	0.0	23.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	5.7	0.6	0.0	20.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	57.1	0.0	63.8	4.9	0.0	45.6
LnGrp LOS	E		E	A		D
Approach Vol, veh/h	262			337	861	
Approach Delay, s/veh	57.1			39.7	45.6	
Approach LOS	E			D	D	

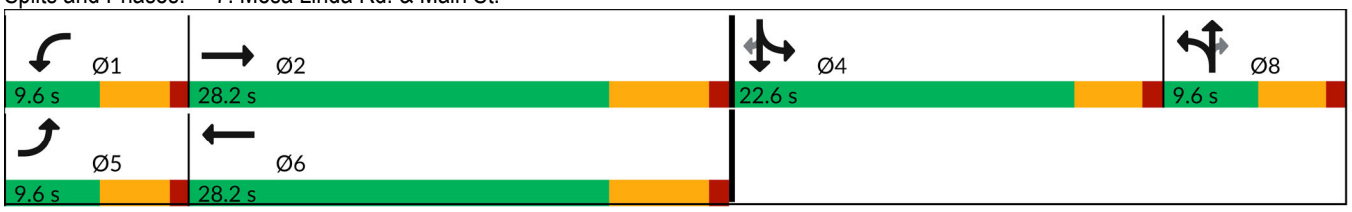
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		71.5		22.9	17.3	54.2
Change Period (Y+Rc), s		6.2		5.2	4.6	6.2
Max Green Setting (Gmax), s		66.6		22.0	13.4	48.6
Max Q Clear Time (g_c+I1), s		4.3		17.3	12.7	47.3
Green Ext Time (p_c), s		0.7		0.3	0.0	0.7

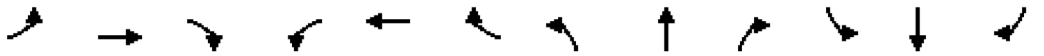
Intersection Summary	
HCM 7th Control Delay, s/veh	46.3
HCM 7th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	15	1161	154	1253	1	75	0	15
Future Volume (vph)	15	1161	154	1253	1	75	0	15
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (%)	13.7%	40.3%	13.7%	40.3%	13.7%	13.7%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.1	20.3	5.1	28.2	5.1	5.1	10.2	10.2
Actuated g/C Ratio	0.09	0.35	0.09	0.48	0.09	0.09	0.17	0.17
v/c Ratio	0.11	0.70	1.12	0.55	0.04	0.26	0.14	0.04
Control Delay (s/veh)	28.3	19.1	144.6	12.8	27.0	1.9	23.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.3	19.1	144.6	12.8	27.0	1.9	23.7	0.1
LOS	C	B	F	B	C	A	C	A
Approach Delay (s/veh)		19.3		26.9	3.7		17.3	
Approach LOS		B		C	A		B	

Intersection Summary	
Cycle Length: 70	
Actuated Cycle Length: 58.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay (s/veh): 22.8	Intersection LOS: C
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1161	8	154	1253	34	5	1	75	40	0	15
Future Volume (veh/h)	15	1161	8	154	1253	34	5	1	75	40	0	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	16	1248	9	166	1347	37	5	1	65	43	0	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	34	1714	12	151	2031	56	90	18	96	320	0	284
Arrive On Green	0.02	0.32	0.32	0.09	0.39	0.39	0.06	0.06	0.06	0.18	0.00	0.18
Sat Flow, veh/h	1714	5313	38	1714	5190	143	1520	304	1610	1810	0	1610
Grp Volume(v), veh/h	16	812	445	166	898	486	6	0	65	43	0	12
Grp Sat Flow(s),veh/h/ln	1714	1729	1893	1714	1729	1874	1824	0	1610	1810	0	1610
Q Serve(g_s), s	0.5	11.8	11.8	5.0	12.1	12.1	0.2	0.0	2.2	1.1	0.0	0.4
Cycle Q Clear(g_c), s	0.5	11.8	11.8	5.0	12.1	12.1	0.2	0.0	2.2	1.1	0.0	0.4
Prop In Lane	1.00		0.02	1.00		0.08	0.83		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	34	1116	611	151	1353	733	108	0	96	320	0	284
V/C Ratio(X)	0.48	0.73	0.73	1.10	0.66	0.66	0.06	0.00	0.68	0.13	0.00	0.04
Avail Cap(c_a), veh/h	151	1343	735	151	1353	733	161	0	142	575	0	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	17.0	17.0	25.8	14.2	14.2	25.1	0.0	26.1	19.7	0.0	19.3
Incr Delay (d2), s/veh	3.8	1.6	2.9	101.4	1.2	2.3	0.1	0.0	3.1	0.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.9	4.5	6.0	3.7	4.3	0.1	0.0	0.8	0.5	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	18.6	19.9	127.3	15.4	16.4	25.2	0.0	29.2	19.9	0.0	19.4
LnGrp LOS	C	B	B	F	B	B	C		C	B		B
Approach Vol, veh/h		1273			1550			71			55	
Approach Delay, s/veh		19.2			27.7			28.9			19.8	
Approach LOS		B			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	24.5		14.6	5.7	28.4		8.0				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		5.0				
Max Q Clear Time (g_c+I1), s	7.0	13.8		3.1	2.5	14.1		4.2				
Green Ext Time (p_c), s	0.0	4.5		0.1	0.0	4.7		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.9	
HCM 7th LOS	C	

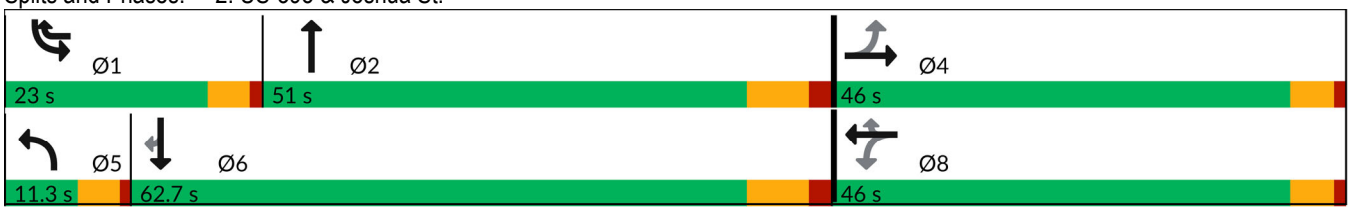
Notes

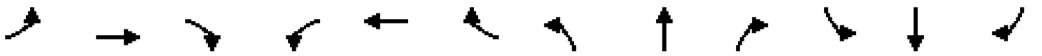
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	230	463	92	111	536	80	1509	454	1550	181
Future Volume (vph)	230	463	92	111	536	80	1509	454	1550	181
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Prot	NA	Perm
Protected Phases		4		8	1	5	2	1	6	
Permitted Phases	4		8		8					6
Detector Phase	4	4	8	8	1	5	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.6	22.6	46.0	46.0	9.7	9.7	38.5	9.7	38.5	38.5
Total Split (s)	46.0	46.0	46.0	46.0	23.0	11.3	51.0	23.0	62.7	62.7
Total Split (%)	38.3%	38.3%	38.3%	38.3%	19.2%	9.4%	42.5%	19.2%	52.3%	52.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	5.5	3.7	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.7	4.7	7.5	4.7	7.5	7.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effct Green (s)	34.9	34.9	34.9	34.9	58.0	6.6	43.9	18.1	55.4	55.4
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.51	0.06	0.38	0.16	0.49	0.49
v/c Ratio	0.66	0.91	0.80	0.20	0.67	0.85	0.91	0.91	0.93	0.22
Control Delay (s/veh)	43.3	58.8	77.7	29.6	23.6	111.9	41.5	70.5	39.5	5.9
Queue Delay	0.0	0.0	0.0	1.8	55.2	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.3	58.8	77.7	31.4	78.7	111.9	41.5	70.5	39.5	5.9
LOS	D	E	E	C	E	F	D	E	D	A
Approach Delay (s/veh)		53.9		71.5			44.6		43.1	
Approach LOS		D		E			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 114.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay (s/veh): 48.9	Intersection LOS: D
Intersection Capacity Utilization 96.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: US-395 & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	463	35	92	111	536	80	1509	191	454	1550	181
Future Volume (veh/h)	230	463	35	92	111	536	80	1509	191	454	1550	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	242	487	35	97	117	532	84	1588	173	478	1632	180
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	285	598	43	265	649	796	94	1721	187	507	1661	741
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.05	0.36	0.36	0.15	0.46	0.46
Sat Flow, veh/h	753	1751	126	1643	1900	1610	1714	4749	517	3326	3610	1610
Grp Volume(v), veh/h	242	0	522	97	117	532	84	1156	605	478	1632	180
Grp Sat Flow(s),veh/h/ln	753	0	1877	822	1900	1610	1714	1729	1807	1663	1805	1610
Q Serve(g_s), s	35.8	0.0	30.4	6.9	5.2	30.0	5.8	38.4	38.5	17.1	53.5	8.2
Cycle Q Clear(g_c), s	41.0	0.0	30.4	37.3	5.2	30.0	5.8	38.4	38.5	17.1	53.5	8.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	285	0	641	265	649	796	94	1254	655	507	1661	741
V/C Ratio(X)	0.85	0.00	0.81	0.37	0.18	0.67	0.89	0.92	0.92	0.94	0.98	0.24
Avail Cap(c_a), veh/h	285	0	641	265	649	796	94	1254	655	507	1661	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	36.0	53.0	27.7	22.9	56.3	36.6	36.7	50.3	31.9	19.7
Incr Delay (d2), s/veh	20.0	0.0	7.4	0.3	0.0	1.8	58.2	11.7	19.5	26.1	18.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	14.8	1.4	2.3	11.1	4.0	17.0	19.2	8.6	25.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.4	0.0	43.4	53.3	27.8	24.7	114.6	48.3	56.2	76.5	50.1	20.1
LnGrp LOS	E		D	D	C	C	F	D	E	E	D	C
Approach Vol, veh/h		764			746			1845			2290	
Approach Delay, s/veh		49.7			28.9			53.9			53.2	
Approach LOS		D			C			D			D	

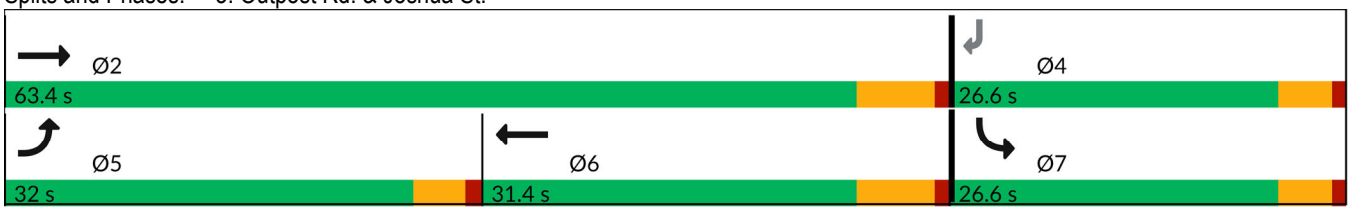
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	51.0		46.0	11.3	62.7		46.0				
Change Period (Y+Rc), s	4.7	7.5		5.0	4.7	7.5		5.0				
Max Green Setting (Gmax), s	18.3	43.5		41.0	6.6	55.2		41.0				
Max Q Clear Time (g_c+I1), s	19.1	40.5		43.0	7.8	55.5		39.3				
Green Ext Time (p_c), s	0.0	2.8		0.0	0.0	0.0		0.4				

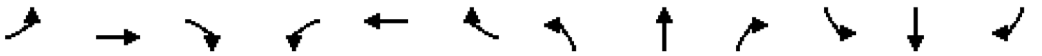
Intersection Summary												
HCM 7th Control Delay, s/veh			49.8									
HCM 7th LOS			D									

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	335	773	552	35	187
Future Volume (vph)	335	773	552	35	187
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	5	2	6	7	
Permitted Phases					4
Detector Phase	5	2	6	7	4
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	24.2	24.2	14.6	26.6
Total Split (s)	32.0	63.4	31.4	26.6	26.6
Total Split (%)	35.6%	70.4%	34.9%	29.6%	29.6%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	None	None	None	Min
Act Effct Green (s)	18.2	42.1	19.1	12.2	12.2
Actuated g/C Ratio	0.28	0.64	0.29	0.19	0.19
v/c Ratio	0.76	0.36	0.69	0.12	0.43
Control Delay (s/veh)	34.4	6.0	24.9	26.5	7.8
Queue Delay	1.0	0.2	0.0	0.0	0.0
Total Delay (s/veh)	35.4	6.2	24.9	26.5	7.8
LOS	D	A	C	C	A
Approach Delay (s/veh)		15.1	24.9		
Approach LOS		B	C		

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 65.6	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay (s/veh): 17.9	Intersection LOS: B
Intersection Capacity Utilization 54.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Outpost Rd. & Joshua St.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	773	0	0	552	116	0	0	0	35	0	187
Future Volume (veh/h)	335	773	0	0	552	116	0	0	0	35	0	187
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1800	1900	0	0	1900	1900				1800	0	1900
Adj Flow Rate, veh/h	360	831	0	0	594	125				38	0	201
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	421	2222	0	0	843	177				312	0	293
Arrive On Green	0.25	0.62	0.00	0.00	0.28	0.28				0.18	0.00	0.18
Sat Flow, veh/h	1714	3705	0	0	3063	623				1714	0	1610
Grp Volume(v), veh/h	360	831	0	0	361	358				38	0	201
Grp Sat Flow(s),veh/h/ln	1714	1805	0	0	1805	1787				1714	0	1610
Q Serve(g_s), s	10.7	6.1	0.0	0.0	9.5	9.6				1.0	0.0	6.2
Cycle Q Clear(g_c), s	10.7	6.1	0.0	0.0	9.5	9.6				1.0	0.0	6.2
Prop In Lane	1.00		0.00	0.00		0.35				1.00		1.00
Lane Grp Cap(c), veh/h	421	2222	0	0	512	507				312	0	293
V/C Ratio(X)	0.86	0.37	0.00	0.00	0.70	0.71				0.12	0.00	0.69
Avail Cap(c_a), veh/h	881	3872	0	0	853	844				707	0	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	5.1	0.0	0.0	17.1	17.1				18.2	0.0	20.4
Incr Delay (d2), s/veh	2.0	0.1	0.0	0.0	1.8	1.8				0.2	0.0	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	1.3	0.0	0.0	3.5	3.5				0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.2	5.2	0.0	0.0	18.9	18.9				18.4	0.0	23.2
LnGrp LOS	C	A			B	B				B		C
Approach Vol, veh/h		1191			719						239	
Approach Delay, s/veh		10.1			18.9						22.5	
Approach LOS		B			B						C	

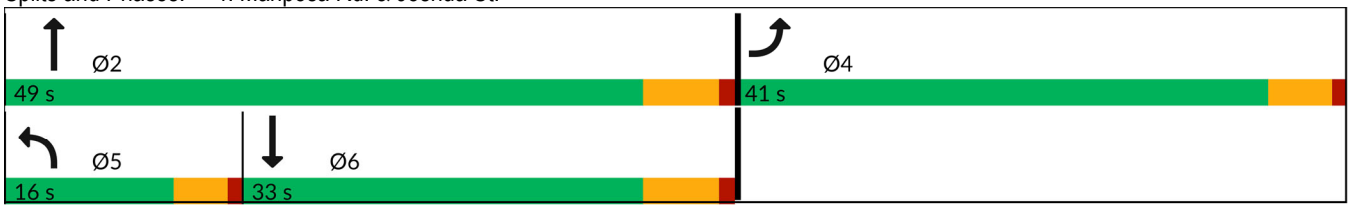
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		39.0		14.3	17.7	21.3						
Change Period (Y+Rc), s		6.2		4.6	4.6	6.2						
Max Green Setting (Gmax), s		57.2		22.0	27.4	25.2						
Max Q Clear Time (g_c+I1), s		8.1		8.2	12.7	11.6						
Green Ext Time (p_c), s		6.5		0.6	0.4	3.5						

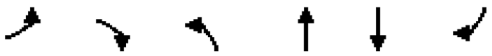
Intersection Summary												
HCM 7th Control Delay, s/veh			14.4									
HCM 7th LOS			B									

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	299	74	241	176
Future Volume (vph)	299	74	241	176
Turn Type	Prot	Prot	NA	NA
Protected Phases	4	5	2	6
Permitted Phases				
Detector Phase	4	5	2	6
Switch Phase				
Minimum Initial (s)	10.0	5.0	10.0	10.0
Minimum Split (s)	27.2	9.6	24.2	24.2
Total Split (s)	41.0	16.0	49.0	33.0
Total Split (%)	45.6%	17.8%	54.4%	36.7%
Yellow Time (s)	4.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.2	4.6	6.2	6.2
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Recall Mode	None	None	Min	None
Act Effct Green (s)	19.2	7.8	24.4	14.9
Actuated g/C Ratio	0.34	0.14	0.43	0.27
v/c Ratio	0.69	0.35	0.33	0.55
Control Delay (s/veh)	23.7	31.3	12.2	23.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.7	31.3	12.2	23.7
LOS	C	C	B	C
Approach Delay (s/veh)	23.7		16.7	23.7
Approach LOS	C		B	C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay (s/veh): 21.3	Intersection LOS: C
Intersection Capacity Utilization 52.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Mariposa Rd. & Joshua St.





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	299	64	74	241	176	71
Future Volume (veh/h)	299	64	74	241	176	71
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1800	1900	1800	1900	1900	1900
Adj Flow Rate, veh/h	332	71	82	268	196	79
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	411	88	126	810	311	125
Arrive On Green	0.30	0.30	0.07	0.43	0.24	0.24
Sat Flow, veh/h	1379	295	1714	1900	1288	519
Grp Volume(v), veh/h	404	0	82	268	0	275
Grp Sat Flow(s),veh/h/ln	1678	0	1714	1900	0	1807
Q Serve(g_s), s	9.2	0.0	1.9	3.9	0.0	5.6
Cycle Q Clear(g_c), s	9.2	0.0	1.9	3.9	0.0	5.6
Prop In Lane	0.82	0.18	1.00			0.29
Lane Grp Cap(c), veh/h	500	0	126	810	0	436
V/C Ratio(X)	0.81	0.00	0.65	0.33	0.00	0.63
Avail Cap(c_a), veh/h	1453	0	473	1967	0	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	18.6	7.9	0.0	14.0
Incr Delay (d2), s/veh	3.2	0.0	2.1	0.2	0.0	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.6	0.9	0.0	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.6	0.0	20.7	8.2	0.0	15.5
LnGrp LOS	B		C	A		B
Approach Vol, veh/h	404			350	275	
Approach Delay, s/veh	16.6			11.1	15.5	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.8		17.5	7.7	16.2
Change Period (Y+Rc), s		6.2		5.2	4.6	6.2
Max Green Setting (Gmax), s		42.8		35.8	11.4	26.8
Max Q Clear Time (g_c+I1), s		5.9		11.2	3.9	7.6
Green Ext Time (p_c), s		1.3		1.2	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	14.4
HCM 7th LOS	B

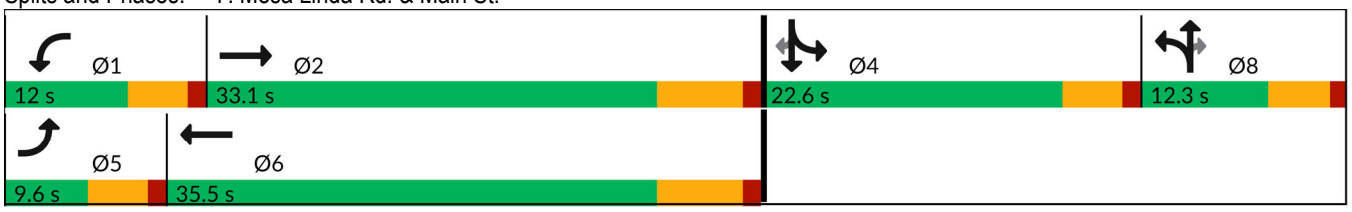
Notes

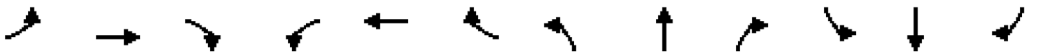
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	17	1331	106	932	5	292	2	5
Future Volume (vph)	17	1331	106	932	5	292	2	5
Turn Type	Prot	NA	Prot	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8		4	
Permitted Phases						8		4
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	9.6	28.2	9.6	28.2	9.6	9.6	22.6	22.6
Total Split (s)	9.6	33.1	12.0	35.5	12.3	12.3	22.6	22.6
Total Split (%)	12.0%	41.4%	15.0%	44.4%	15.4%	15.4%	28.3%	28.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Min	Min
Act Effct Green (s)	5.0	26.7	7.3	36.7	6.4	6.4	10.0	10.0
Actuated g/C Ratio	0.07	0.38	0.10	0.52	0.09	0.09	0.14	0.14
v/c Ratio	0.17	0.81	0.71	0.43	0.31	0.75	0.11	0.02
Control Delay (s/veh)	34.8	23.9	55.3	11.6	35.2	15.5	28.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.8	23.9	55.3	11.6	35.2	15.5	28.2	0.0
LOS	C	C	E	B	D	B	C	A
Approach Delay (s/veh)		24.0		15.9	18.1		23.2	
Approach LOS		C		B	B		C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 70.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay (s/veh): 20.2	Intersection LOS: C
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Mesa Linda Rd. & Main St.



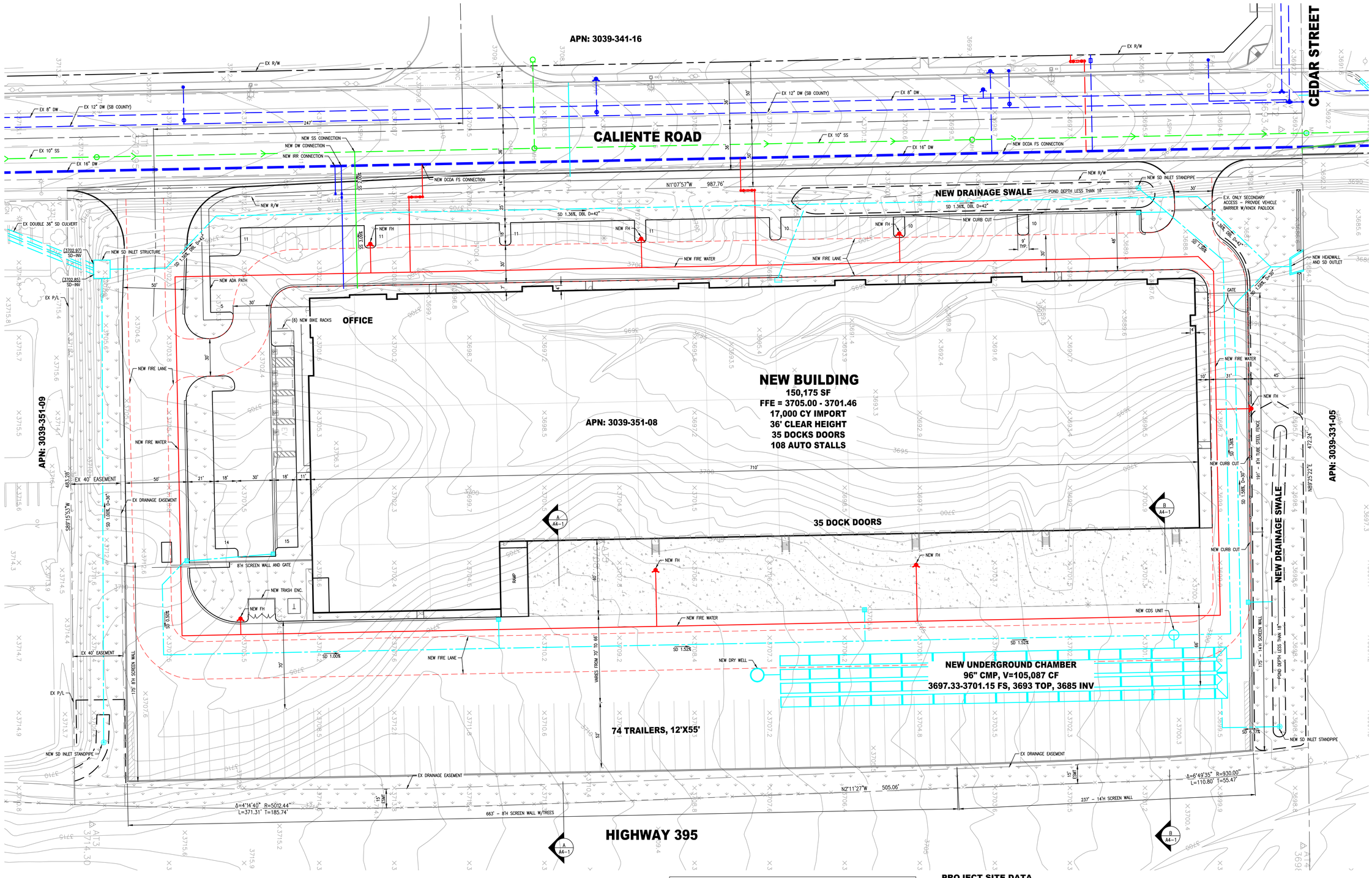


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	1331	23	106	932	40	39	5	292	22	2	5
Future Volume (veh/h)	17	1331	23	106	932	40	39	5	292	22	2	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	20	1566	26	125	1096	46	46	6	283	26	2	4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	1906	32	157	2200	92	179	23	180	244	19	233
Arrive On Green	0.02	0.36	0.36	0.09	0.43	0.43	0.11	0.11	0.11	0.14	0.14	0.14
Sat Flow, veh/h	1714	5255	87	1714	5105	214	1610	210	1610	1686	130	1610
Grp Volume(v), veh/h	20	1030	562	125	742	400	52	0	283	28	0	4
Grp Sat Flow(s),veh/h/ln	1714	1729	1884	1714	1729	1861	1820	0	1610	1816	0	1610
Q Serve(g_s), s	0.8	18.7	18.7	4.9	10.7	10.8	1.8	0.0	7.7	0.9	0.0	0.1
Cycle Q Clear(g_c), s	0.8	18.7	18.7	4.9	10.7	10.8	1.8	0.0	7.7	0.9	0.0	0.1
Prop In Lane	1.00		0.05	1.00		0.12	0.88		1.00	0.93		1.00
Lane Grp Cap(c), veh/h	40	1254	683	157	1490	802	203	0	180	263	0	233
V/C Ratio(X)	0.51	0.82	0.82	0.80	0.50	0.50	0.26	0.00	1.58	0.11	0.00	0.02
Avail Cap(c_a), veh/h	124	1347	734	184	1490	802	203	0	180	473	0	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	20.0	20.0	30.7	14.2	14.2	28.1	0.0	30.7	25.6	0.0	25.3
Incr Delay (d2), s/veh	3.7	4.0	7.1	15.9	0.3	0.5	0.2	0.0	284.2	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.9	8.1	2.5	3.4	3.7	0.7	0.0	16.8	0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.0	24.0	27.0	46.7	14.5	14.7	28.3	0.0	314.9	25.8	0.0	25.3
LnGrp LOS	D	C	C	D	B	B	C		F	C		C
Approach Vol, veh/h		1612			1267			335			32	
Approach Delay, s/veh		25.2			17.7			270.4			25.8	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	31.2		14.6	6.2	36.0		12.3				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	7.4	26.9		18.0	5.0	29.3		7.7				
Max Q Clear Time (g_c+I1), s	6.9	20.7		2.9	2.8	12.8		9.7				
Green Ext Time (p_c), s	0.0	4.4		0.1	0.0	6.2		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	47.6	
HCM 7th LOS	D	

Notes
User approved pedestrian interval to be less than phase max green.



RAW EARTHWORK QUANTITIES

	RAW CUT:	RAW FILL:
	31,600 CY	48,600 CY
SHRINKAGE @ 20%		XXX CY
SUBSIDENCE @ 0.1'		XXX CY
PAD OVER-EX 4' BELOW EX. GRADE	XXX CY	XXX CY
SHRINKAGE @ 20%		XXX CY
UNDERGROUND BASIN SPOILS	XXX CY	
TOTALS:	XXX CY	XXX CY
	NET: 17,000 CY IMPORT	

LEGAL DESCRIPTION

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF HESPERIA, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1 OF PARCEL MAP NO. 18615, IN THE CITY OF HESPERIA, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 225, PAGES 47 AND 48 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPTING THEREFROM THE INTEREST IN THE OIL, GAS AND MINERAL RIGHTS, IN AND UNDER SAID LAND, AS EXCEPTED IN THE FOLLOWING DEEDS: DEED FROM HAROLD K. HENSLEY AND VIDA HENSLEY, HUSBAND AND WIFE, TO NORMAN DREYFUSS, A MARRIED MAN, ET AL, RECORDED JULY 23, 1957 IN BOOK 4285, PAGE 212 OF OFFICIAL RECORDS, WHICH EXCEPTS ONE-HALF; DEED FROM JOSEPH R. HINKEL, A SINGLE MAN, TO JAMES J. FADELL, A CONVEYING A 1/6TH INTEREST IN PROPERTY HEREIN DESCRIBED, WHICH EXCEPTS ONE-HALF INTEREST IN OIL, GAS AND MINERAL RIGHTS.

APN. 3039-351-08

OWNER

COVINGTON DEVELOPMENT PARTNERS, LLC
3 CORPORATE PLAZA, SUITE 230
NEWPORT BEACH, CA 92660
TEL: (949) 514-0274

CONTACT: DANA WHITMER

ARCHITECT

RGA, OFFICE OF ARCHITECTURAL DESIGN, INC.
15231 ALTON PARKWAY, SUITE 100
IRVINE CA, 92618
TEL: (949) 341-0923

CONTACT: CHRIS SAVAGE

CIVIL ENGINEER

WESTLAND GROUP, INC.
4150 CONCOURS STREET,
SUITE 100
ONTARIO, CA 91764
TEL: (909) 989-9789
CONTACT: MATT KUNKLE, DAVID STUETZEL

UTILITY PURVEYORS

SCE
PO BOX 6400
RANCHO CUCAMONGA, CA 91729
(760) 951-3253
ATTENTION: JERIMON ROMERO

SOUTHWEST GAS CO.
13471 MARIPOSA ROAD
VICTORVILLE, CA
(760) 951-4053
ATTENTION: DIANE REICHLE

VERIZON
16071 MOHAVE DR BLDG A
VICTORVILLE, CA 92395
(800) 483-3000
ATTENTION: CHRIS THORPE

CITY OF HESPERIA, WATER DIST.
9700 SEVENTH AVE.
HESPERIA, CA 92345
(760) 947-1417

CITY OF HESPERIA, SEWER
9700 SEVENTH AVE.,
HESPERIA, CA 92345
(760) 947-1417

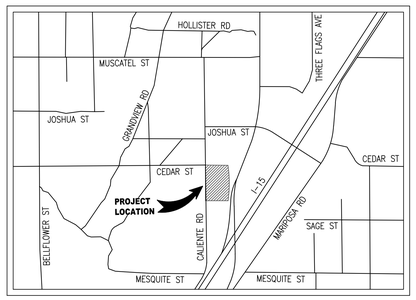
CHARTER COMMUNICATIONS
9536 "C" AVE
VICTORVILLE, CA
(866) 499-8080

BASIS OF BEARINGS

THE BEARING OF NORTH 01°08'00" WEST ALONG THE CENTERLINE OF CALIENTE ROAD AS SHOWN ON PARCEL MAP NO. 18615, FILED IN BOOK 225, PAGES 47-48 OF PARCEL MAPS WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS MAP.

HYDROLOGY SUMMARY

DRAINAGE AREA No.	TRIBUTARY AREA (AC)	IMPERVIOUS RATIO	DESIGN CAPTURE VOLUME (CF)	HYDROMODIFICATION VOLUME (CF)	V_{100} (CF)	TOTAL RETENTION VOLUME (CF)
DMA A TO DA 1	11.01	0.80	28,201	71,480	212,538	105,087



VICINITY MAP
N.T.S.

PROJECT SITE DATA

- SITE AREA: 11.01 AC (479,670 SQ. FT)
- BUILDING AREA: 150,175 SQ. FT
- GROSS COVERAGE: 31.3%
- BUILDING TYPE: INDUSTRIAL WAREHOUSE
- LANDSCAPE PROVIDED:
  - AREA: 98,000 SQ. FT
  - RATIO: 20.4%
- PARKING REQUIRED:
  - TOTAL AUTO PARKING: 94 STALLS
    - OFFICE: 6,000 SF @ 3.33/1000 SF = 20 STALLS
    - WAREHOUSE: 144,175 SF @ 20+0.4/1000 O/10,000 SF = 74 STALLS
- PARKING PROVIDED:
  - TOTAL AUTO PARKING: 108 STALLS
    - STANDARD STALLS [9'X18']: 103 STALLS
    - ADA ACCESSIBLE STALLS: 5 STALLS
  - TRAILER PARKING: 74 STALLS
  - DOCK LOADING POSITIONS: 35 DOCKS

LEGEND

DOMESTIC WATER LINE
SANITARY SEWER
FIRE WATER LINE
STORM DRAIN LINE
FIRE HYDRANT
PROPERTY LINE
CONCRETE
LANDSCAPE

30 0 30 60
scale 1" = 30' feet

PREPARED BY:

WestLAND Group, Inc. Engineering • Geospatial • Land Planning
4150 CONCOURS, ONTARIO, CA 91764
PHONE: (909) 989-9789 FAX: (909) 989-9660

JOB NUMBER: 2018-330

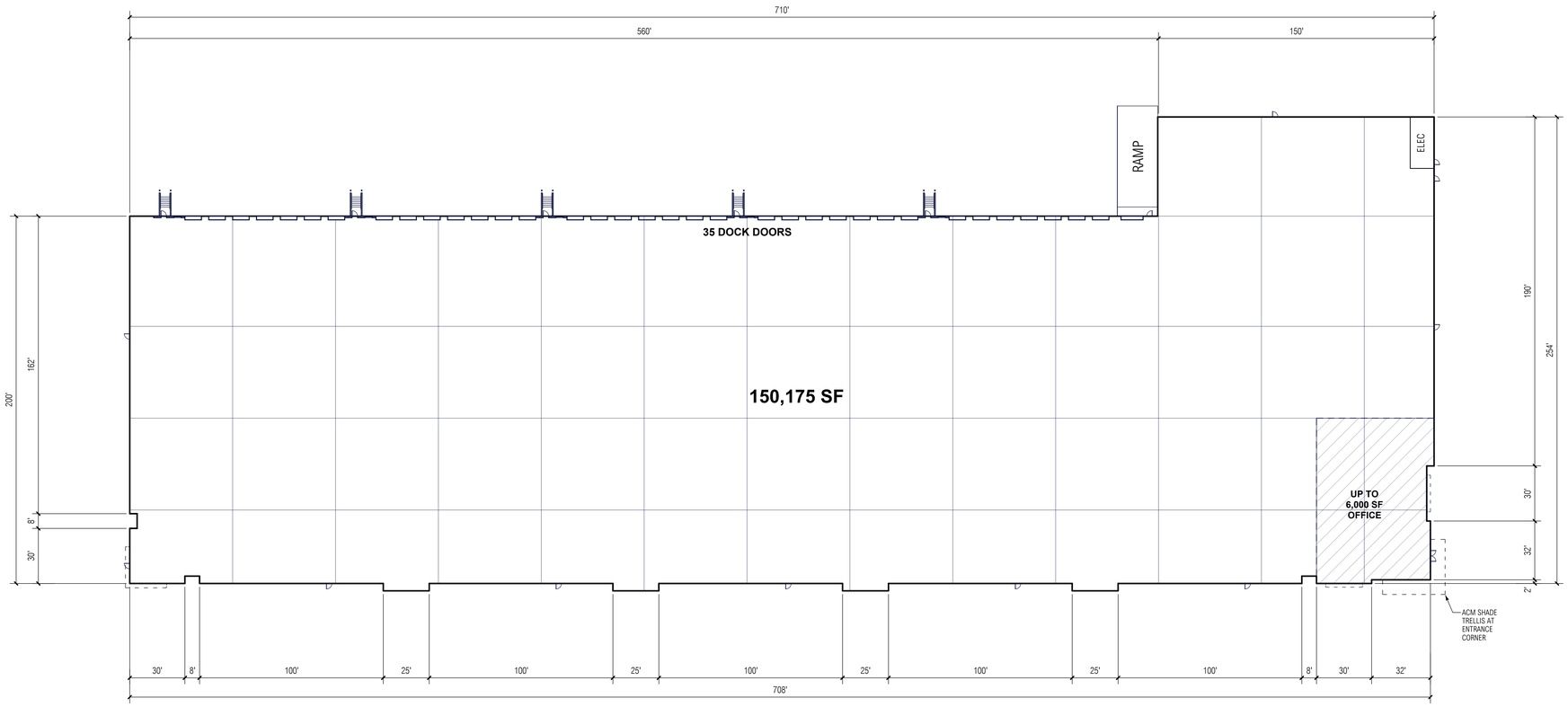
CITY OF HESPERIA, CALIFORNIA

HESPERIA COMMERCE CENTER I - LOT 5

SITE PLAN EXHIBIT

DRAWN BY:	RT
DESIGNED BY:	RT, MK
CHECKED BY:	MK
SCALE:	1"=30'
DATE:	07/24/2024
SHT NO.:	1 OF 1

Drawing Name: P:\Projects\2018\2018-330 Hesperia Commerce Center Mapping Services - Covington Capital - Brandon Gallup\05 Engineering\Sheets\CONCEPT\ALL Lot 5\2018_2018-330 (Lot 5)_LOE.dwg
Last Opened: Jul 24, 2024 - 6:12pm by Richmond Trinh



SCALE: 1" = 30'-0" 0' 10' 20' 50' 100'

RGA
Office of Architectural Design
15231 Alton Parkway, Suite 100
Irvine, CA 92618
T 949-341-0920
FX 949-341-0922

COVINGTON GROUP

HCC I - LOT 5

CALIENTE ROAD, HESPERIA, CA

SCHEMATIC FLOOR PLAN

MARK	DATE	DESCRIPTION
	1/30/24	PLANNING 2ND SUBMITTAL

RGA PROJECT NO:	23089.00
CAD FILE NAME:	23089-00-A2-1-P
DRAWN BY:	CS
CHK'D BY:	CS
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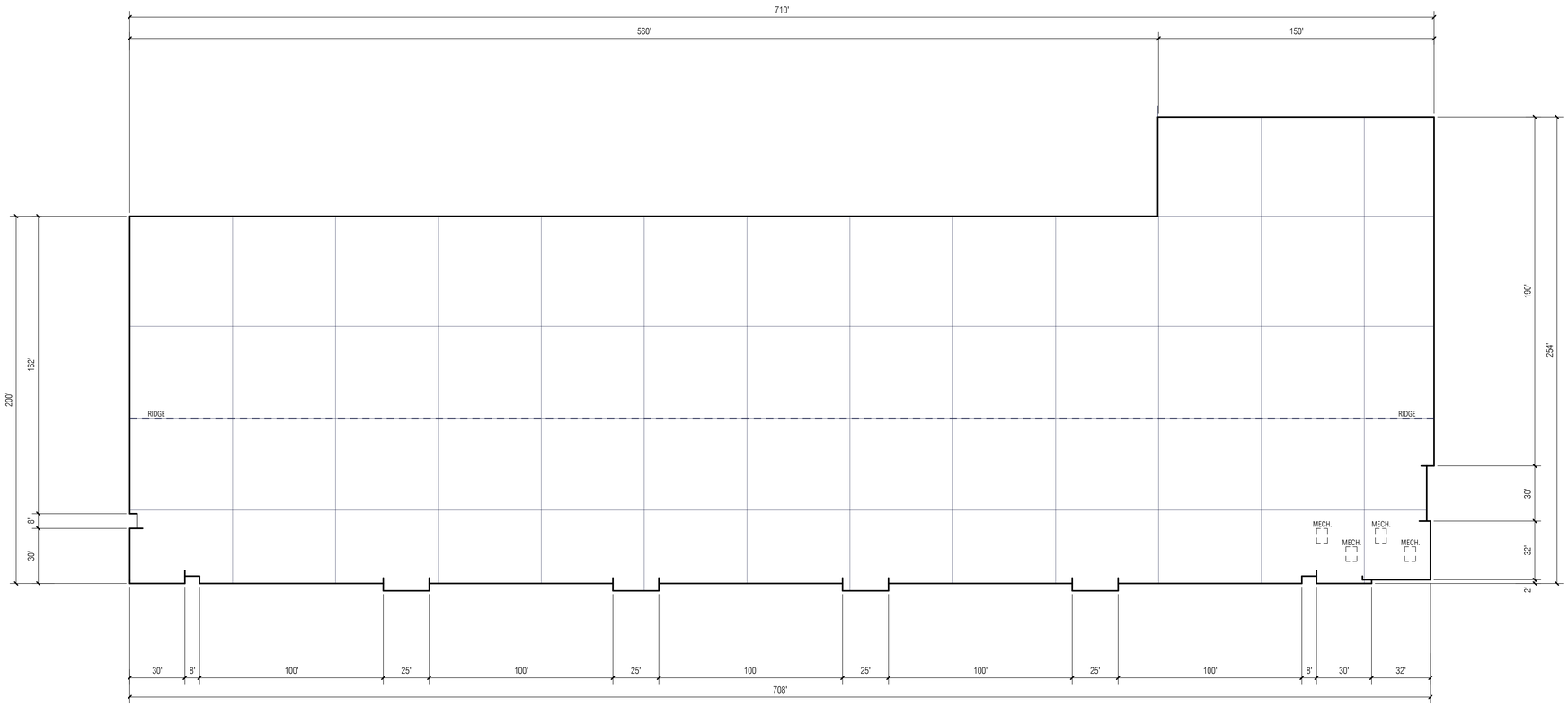
SHEET TITLE	

A2-1-P



SCALE: 1" = 30'-0" 0' 10' 20' 50' 100'

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COVINGTON GROUP

HCC I - LOT 5

CALIENTE ROAD, HESPERIA, CA

SCHEMATIC ROOF PLAN

MARK	DATE	DESCRIPTION
	1/30/24	PLANNING 2ND SUBMITTAL

RGA PROJECT NO:	23089.00
CAD FILE NAME:	23089-00-A2-1-P
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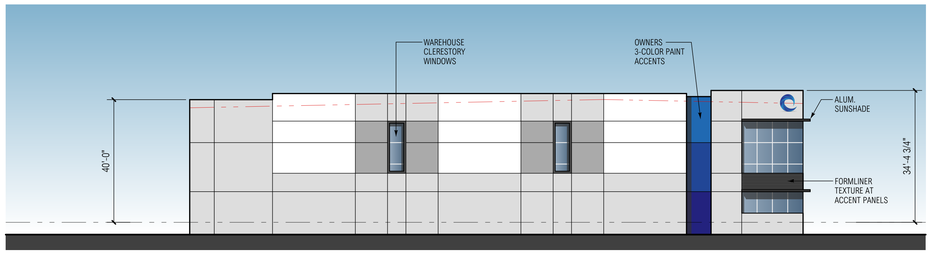
SHEET TITLE	

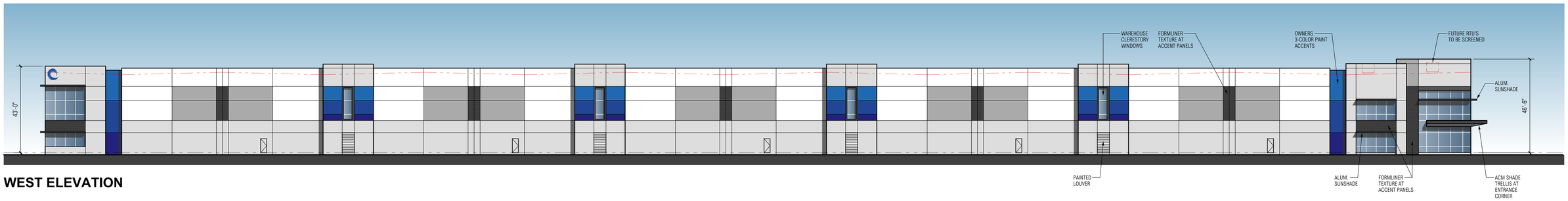
A2-2-P

FINISH / MATERIALS LEGEND

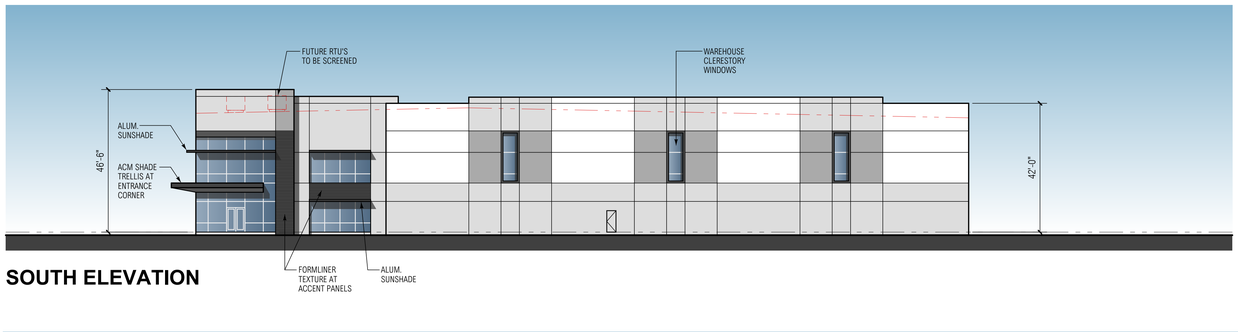
P-1	SW 7005 - PURE WHITE	GL-1	SOLARCOOL PACIFICA REFLECTIVE GLAZING WITH CLEAR ANODIZED ALUM. MULLIONS
P-2	SW 7071 - GRAY SCREEN	ACM-1	ALUCOBOND BRUSHED CARBON
P-3	SW 7073 - NETWORK GRAY		
P-4	SW 7075 - WEB GRAY		
P-5	SW 6803 - DANUBE		
P-6	SW 6797 - JAY BLUE		
P-7	SW 6967 - FRANK BLUE		



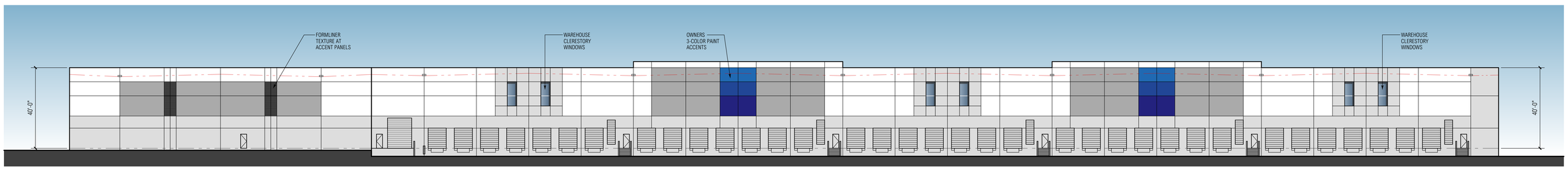
NORTH ELEVATION



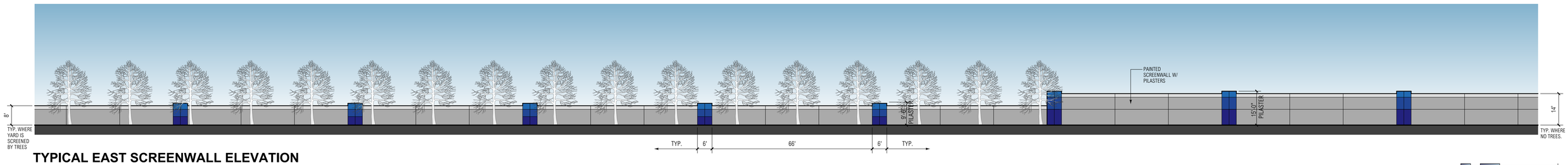
WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION



TYPICAL EAST SCREENWALL ELEVATION

SCALE: 1" = 20'-0" 0' 5' 10' 20' 50'

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FX 949-341-0922

COVINGTON GROUP

HCC I - LOT 5

CALIENTE ROAD, HESPERIA, CA

SCHEMATIC ELEVATIONS PLAN

MARK	DATE	DESCRIPTION
	1/30/24	PLANNING 2ND SUBMITTAL
	7/12/24	PLANNING COMMENTS
	9/6/24	WALL HEIGHT CORRECTION

RGA PROJECT NO:	23089.00
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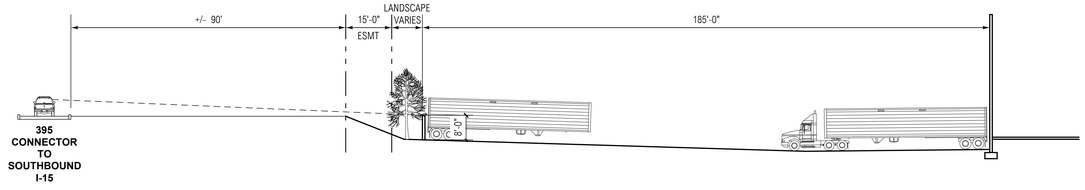
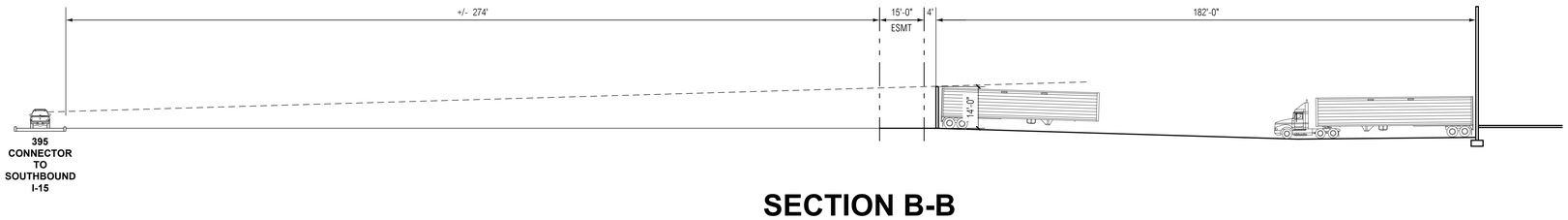
SHEET TITLE	

A3-1-P



SECTION A-A



SECTION B-B

RGA
Office of Architectural Design
15231 Alton Parkway, Suite 100
Irvine, CA 92618
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FX 949-341-0922

COVINGTON GROUP

HCC I - LOT 5

CALIENTE ROAD, HESPERIA, CA

SCHEMATIC ELEVATIONS PLAN

SCALE: 1" = 20'-0" 0' 5' 10' 20' 50'

MARK	DATE	DESCRIPTION
	7/12/24	PLANNING COMMENTS
	1/30/24	PLANNING 2ND SUBMITTAL

RGA PROJECT NO:	23089.00
CAD FILE NAME:	23089-00-A3-1-P
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CHK'D BY:	CS
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SHEET TITLE	

A4-1-P

DRAFT

ATTACHMENT "A"
List of Conditions for SPR23-00024

Approval Date: December 03, 2025
Effective Date: December 16, 2025
Expiration Date: December 16, 2028

This list of conditions applies to: Consideration of Site Plan Review SPR23-00024 to construct a 150,175 square foot industrial warehouse within the Commercial Industrial Business Park (CIBP) zone of the Main Street and Freeway Corridor Specific Plan on 11.01 gross acres located east of Caliente Road, approximately 890 feet south of Joshua Street, in conjunction with the adoption of an Addendum to the Hesperia Commerce Center Environmental Impact Report pursuant to the provisions of CEQA (Applicant: Caliente 395, LLC - Covington Group; APN: 3039-351-08)

The use shall not be established until all conditions of this land use approval application have been met. This approved land use shall become null and void if all conditions have not been completed by the expiration date noted above. Extensions of time may be granted upon submittal of the required application and fee prior to the expiration date.

(Note: the "COMPLETED" and "COMPLIED BY" spaces are for internal City use only).

CONDITIONS REQUIRED AS PART OF SUBMITTAL OF PUBLIC IMPROVEMENT PLANS

COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	CONSTRUCTION PLANS. Five complete sets of construction plans prepared and wet stamped by a California licensed Civil or Structural Engineer or Architect shall be submitted to the Building Division with the required application fees for review. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	DUST CONTROL. Dust control shall be maintained before, during, and after all grading operations. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	UTILITY NON INTERFERE/QUITCLAIM DOCS. The Developer shall provide non interference and or quitclaim letter(s) from any applicable utility agencies for any utility easements that affect the proposed project. All documents shall be subject to review and approval by the Engineering Department and the affected utility agencies. The improvement plans will not be accepted without the required documents and approval from the affected agencies. (E)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	GEOTECHNICAL REPORT. The Developer shall provide two copies of the soils report to substantiate all grading building and public improvement plans. Include R value testing and pavement recommendations for public streets. (E B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	PLAN CHECK FEES. Plan checking fees must be paid in conjunction with the improvement plan submittal. All required plans, maps, requested studies, CFD annexations, etc. must be submitted as a package. The Developer shall coordinate with the City's Engineering Analyst, Dena Alcayaga at (760) 947-1438 or dlalcayaga@cityofhesperia.us, to obtain the fee calculation form which shall be completed and submitted, along with fee payment, at time of plan submittal. Any

outstanding fees must be paid before final inspection and the release of bonds.

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

TITLE REPORT. The Developer shall provide a complete title report 90-days or newer from the date of submittal. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

TRAFFIC STUDY. The applicant shall be required to provide a traffic study prepared by a California licensed traffic engineer. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

DRAINAGE IMPACT PREVENTION. The Project shall provide additional drainage facilities, and/or additional drainage facility capacity to mitigate flooding or other downstream impacts associated with or in the vicinity of the proposed project per direction of the City Engineer. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

DRAINAGE STUDY. The Developer shall submit three (3) copies of a Final Drainage Study which analyzes the pre-project and proposed project hydrology, including flows from offsite, flows generated onsite, hydraulic properties of flows entering or exiting the project to and from natural or constructed conveyances, and capacity and function of any runoff management structures such as catch basins, inlets, outlets and detention or retention structures. The study must include all information specified in the City's hydrology study outline. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

DRYWELLS. The Project may be permitted to install drywells to ensure the required drawdown time will be achieved.

A. Drywells shall have a City-approved pretreatment component equivalent to a 2-phase system with debris shield and filter element.

B. Drywells shall be constructed by a contractor qualified in the construction of drywells.

C. Drywells in retention basins shall include a secured grate to prevent unauthorized removal.

D. The excavation for the drywell shall penetrate a minimum of 10 continuous feet into a suitable permeable layer or when a depth of 60 feet has been reached, unless otherwise approved by the City Engineer.

E. Drywells that cease to drain a basin or underground system within 48 hours of the end of a storm event shall be replaced or refurbished by the owner. This requirement shall be written in the CC&Rs for all subdivisions where drywells are installed.

F. Drywell usage shall comply with all prevailing City, State, and Federal requirements, including the Underground Injection Control Regulations for Class V Injection Wells.

G. A Drywell Maintenance Plan shall be submitted to the City for review and approval prior to the approval of a drywell installation at a project site.

H. The Drywell Maintenance Plan shall include the following:

1. Drywell(s) location, depth, type, installing contractor, date of installation, owner, maintenance contractor, and emergency contact.

2. Settling chambers and interceptors to be inspected annually;

3. Removal of sediment and debris when:
   a. Sediment/debris level fills = 25% of the capacity;
   b. Drywell ownership or maintenance responsibility changes;
   c. Material not resulting from stormwater/urban runoff enters the settling chamber or interceptor

I. Submit inspection/maintenance reports to the City (Building and Safety within 10 days of inspection/maintenance. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

OFFSITE DRAINAGE IMPACT PREVENTION. The Project shall provide safe conveyance for offsite runoff either routed through the project or around the project site. The Project shall ensure that the proposed conveyance of offsite flows will not increase adverse impacts to downstream properties and/or drainage facilities for the 1-hour design storm for the 100-year return frequency rainfall events. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

The Project shall be designed to prevent adverse impacts to downstream properties and/or drainage facilities caused or exacerbated by the project. The project shall demonstrate that runoff from the completed project site will not exceed 90% of the pre-project runoff discharge rates for the 24-hour design storm for the 100-year return frequency rainfall events.

A. Drawdown Time. All drainage facilities which are designed to percolate/infiltrate surface runoff (including basins, drywells, or infiltration-based low impact development features) shall not accumulate standing water for more than 48 hours. All drainage facilities designed to provide detention storage shall recover 100 percent of their design detention volume within 48 hours.

B. Groundwater Protection. The Project shall ensure any retention/infiltration or detention facilities will not adversely impact groundwater.

C. Underground Retention/Detention Systems. The Project shall demonstrate a minimum functional life span of 50 years for materials (e.g., polymer, metal, mineral-based, or other) used in underground retention/detention systems. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

INDEMNIFICATION(1). To the furthest extent allowed by law, Applicant shall indemnify, hold harmless and defend City and each of its officers, officials, employees, consultants, agents and volunteers from any and all loss, liability, fines, penalties, forfeitures, damages and costs (including attorney's fees, litigation expenses and administrative record preparation costs) arising from, resulting from, or in connection with any Third-Party Action (as hereinafter defined). The term “Third Party Action” collectively means any legal action or other proceeding instituted by (i) a third party or parties, or (ii) a governmental body, agency or official other than the City, that: (a) challenges or contests any or all of these Conditions of Approval or any approval associated with entitlements associated with the project to which these conditions of approval apply (collectively “Approvals”); or (b) claims or

alleges a violation of CEQA or another law in connection with the Approvals by the City, or the grant, issuance or approval by the City of any or all Approvals. Applicant's obligations under this paragraph shall apply regardless of whether City or any of its officers, officials, employees, consultants, agents or volunteers are actively or passively negligent, but shall not apply to any loss, liability, fines, penalties forfeitures, costs or damages caused solely by the active negligence or willful misconduct of the City or any of its officers, officials, employees, agents or volunteers. The provisions of this section shall survive any termination, revocation, overturn, or expiration of an approval. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

INDEMNIFICATION(2). Nothing in this condition shall obligate the City to defend any claim and the City shall not be required to pay or perform any settlement arising from any such claim unless the City approves the settlement in writing. Additionally, the City shall not be prohibited from independently defending any claim, and whether or not the City does decide to independently defend a claim, the applicant shall be responsible for City's attorneys' fees, expenses of litigation, and costs for that independent defense, including the costs of preparing any required administrative record. Unless the City independently chooses to defend any Third Party Action on its behalf, Applicant shall control the conduct of the defense of any claim or action provided that: (1) the City shall have the right, prior to filing, to review and approve any and all pleadings or related documents filed with the court in connection with such defense and Applicant shall reimburse the City for review time for each draft brief or pleading to be filed on behalf of the City; and (2) the City shall review and reasonably approve any proposed settlement. The Applicant acknowledges that the City is not obligated to approve a proposed settlement requiring the City to pay or incur any monetary amount, take a future legislative action, render a future quasi judicial decision, or otherwise take a future discretionary government action. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

INDEMNIFICATION(3). The City may, at any time, require the applicant to reimburse the City for costs that have been, or which the City reasonably anticipates will be, incurred by the City during the course of processing or defending any Third-Party Actions. The City shall provide Applicant with an invoice detailing all reasonable costs incurred. Applicant shall tender to the City payment in full of all reasonable and necessary costs within thirty (30) days from the date upon the invoice. Applicant further acknowledges and agrees that failure to timely tender payment in full to the City shall be considered a breach and non compliance with the conditions of approval for the project. Applicant shall also be required, upon request of the City, to deposit two month's estimated costs anticipated by the City to be incurred, which may be used by the City as a draw down account to maintain a positive balance pending tender of payment by Applicant as noted herein. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

LIGHT AND LANDSCAPE DISTRICT ANNEXATION. Developer shall annex property into the lighting and landscape

district administered by the Hesperia Recreation and Parks District for all required street lights. The required forms are available from the Building Division and once completed, shall be submitted to the Building Division. (RPD)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

EXPIRATION OF ENTITLEMENT. Unless the applicant has obtained a grading permit and/or building permit and commenced construction, this approval shall expire three (3) years from the date of action of the reviewing authority. Where no grading or building permit is required, the allowed use on the site shall have commenced prior to the expiration date in compliance with the approval and any applicable conditions of approval. An extension of time may be granted pursuant to Municipal Code Section 16.12.060 if the applicant files an application and written request for an extension prior to the expiration of the permit. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

CEQA MITIGATION MEASURES. In addition to the conditions of approval, the project must comply with all mitigation measures that are identified in the Addendum to the Hesperia Commerce Center Environmental Impact Report (P).

CONDITIONS REQUIRED PRIOR TO GROUND DISTURBING ACTIVITY

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

PRE-CONSTRUCTION MEETING. Pre-construction meetings shall be held between the City the Developer grading contractors and special inspectors to discuss permit requirements monitoring and other applicable environmental mitigation measures required prior to ground disturbance and prior to development of improvements within the public right-of-way. (B)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

SURVEY. The Developer shall provide a legal survey of the property. All property corners shall be staked and the property address posted. (B)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

APPROVAL OF IMPROVEMENT PLANS. All required improvement plans shall be prepared by a registered Civil Engineer per City standards and per the City's improvement plan checklist to the satisfaction of the City Engineer. Five sets of improvement plans shall be submitted to the Development Services Department and Engineering Department for plan review with the required plan checking fees. All Public Works plans shall be submitted as a complete set. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

UTILITY NON INTERFERENCE/QUITCLAIM. The Developer shall provide non interference and or quitclaim letter(s) from any applicable utility agencies for any utility easements that affect the proposed project. All documents shall be subject to review and approval by the Engineering Department and the affected utility agencies. Grading permits will not be issued until the required documents are reviewed and approved by all applicable agencies. Any fees associated with the required documents are the Developers responsibility. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

GRADING PLAN. The Developer shall submit a Grading Plan with existing contours tied to an acceptable City of Hesperia

benchmark. The grading plan shall indicate building footprints and proposed development of the retention basin(s) as a minimum. Site grading and building pad preparation shall include recommendations provided per the Preliminary Soils Investigation. All proposed walls shall be indicated on the grading plans showing top of wall (tw) and top of footing (tf) elevations along with finish grade (fg) elevations. Wall height from finish grade (fg) to top of wall (tw) shall not exceed 6.0 feet in height. Grading Plans are subject to a full review by the City of Hesperia and the City Engineer upon submittal of the Improvement Plans. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

STREET IMPROVEMENTS. The Developer shall design street improvements in accordance with City standards and these conditions. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

TRAFFIC SIGNAL(S). If required per the approved Traffic Study, the Developer shall design to construct, relocate, and modify traffic signal(s) as identified in said approved Traffic Study. Traffic signal preemption device for emergency vehicle operation shall be included. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

CALIENTE ROAD: Developer shall saw-cut (2-foot min.) and match-up asphalt pavement on Caliente Road across the project frontage based on City's 100-foot Arterial Roadway Standard. The curb face is to be at 36' from the approved centerline. The design shall be based upon an acceptable centerline profile extending a minimum of three hundred (300) feet beyond the project boundaries where applicable. These improvements shall consist of (E)

A. 8 Curb and Gutter per City standards.
B. Sidewalk (width = 6 feet) per City standards.
C. Roadway drainage device(s).
D. Streetlights per City standards.
E. Commercial drive approach per City standards.
F. Pavement transitions per City Standards.
G. Design roadway sections per approved street sections and per R value testing with a traffic index of 10 and per the soils report.
H. Cross sections every 50-feet per City standards.
I. Traffic control signs and devices as required by the traffic study and or the City Engineer.
J. Provide a signage and striping plan per City standards.
K. It is the Developers responsibility to obtain any off-site dedications for transition tapers including acceleration deceleration tapers.
L. Relocate existing utilities. The Developer shall coordinate with affected utility companies.

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

UTILITY PLAN. The Developer shall design a Utility Plan for service connections and / or private hydrant and sewer connections. Any existing water, sewer, or storm drain infrastructures that are affected by the proposed development shall be removed / replaced or relocated and shall be constructed per City standards at the Developers expense. (E)

A. A remote read automatic meter reader shall be added on all meter connections as approved by the City Engineer.
B. The Developer shall design a Utility Plan for service connections and / or private water and sewer connections. Domestic and fire connections shall be made from the existing 16-inch PVC (Poly Vinyl Chloride) water line in Caliente Road per City Standards.
C. It is the Developers responsibility to connect to sewer and pay the appropriate fees. The Developer will be required to connect to the existing 10-inch PVC (Poly Vinyl Chloride) sewer main in Caliente Road per City standards.
D. Complete V.V.W.R.A.s Wastewater Questionnaire for Commercial / Industrial Establishments and submit to the Engineering Department. Complete the Certification Statement for Photographic and X ray Processing Facilities as required.

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

OVERFLOW-OUTFALL. Each project shall be designed such that the outfall(s) for discharges from the project site in excess of design capacity and or in excess of the 100-year, 24-hr design storm is are routed to a public street, storm drain, drainage channel, or natural watercourse. If such an outfall does not exist, the Project shall provide an outfall. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

Cultural Resources. A copy of an executed contract with a qualified archaeologist and paleontologist for monitoring during grading operations shall be submitted for Planning Division review and approval prior to issuance of a grading permit. All cultural resources discovered shall be handled in accordance with state and federal law. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project. In the event that Native American cultural resources are discovered during project activities, all work in the immediate vicinity of the find shall cease and a qualified archaeologist shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. If significant Native American historical resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, a qualified archaeologist shall be retained to develop a cultural resources Treatment Plan, as well as a Discovery and Monitoring Plan. The Lead Agency and/or applicant shall, in good faith, consult local Indian tribes on the disposition and treatment of any artifacts or other cultural materials encountered during the project. Further, prior to completion of the project, the applicant shall submit a report describing the handling of all cultural resources. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

PRE-CONSTRUCTION SURVEY. A pre-construction survey for the burrowing owl shall be conducted by a City approved and licensed biologist, no more than 30 days prior to ground disturbance. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

PROTECTED PLANTS. Three copies of a protected plant plan shall be submitted to the Building Division showing the present location and proposed treatment of all smoke tree, species in

the Agavacea family, mesquite, large creosote bushes, Joshua Trees, and other plants protected by the State Desert Native Plant Act. The grading plan shall be consistent with the approved protected plant plan. No clearing or grading shall commence until the protected plant plan is approved and the site is inspected and approved for clearing. (P)

CONDITIONS REQUIRED PRIOR TO BUILDING PERMIT ISSUANCE

COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	AQMD APPROVAL. The Developer shall provide evidence of acceptance by the Mojave Desert Air Quality Management District. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	CONSTRUCTION WASTE. The developer or builder shall contract with the City's franchised solid waste hauler to provide bins and haul waste from the proposed development. At any time during construction, should services be discontinued, the franchise will notify the City and all building permits will be suspended until service is reestablished. The construction site shall be maintained and all trash and debris contained in a method consistent with the requirements specified in Hesperia Municipal Code Chapter 15.12. All construction debris, including green waste, shall be recycled at Advance Disposal and receipts for solid waste disposal shall be provided prior to final approval of any permit. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	DEVELOPMENT FEES. The Developer shall pay required development fees as follows: A. School Fees (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	ELECTRIC VEHICLE CHARGING INFRASTRUCTURE. The project shall comply with the requirements of California Green Building Standards Code (CALGreen) Section 5.106.5.3 regarding electric vehicle (EV) charging infrastructure for non-residential developments. The developer shall provide the required number of EV-capable parking spaces, including the necessary raceways, conduits, panel capacity, and other supporting infrastructure to facilitate the future installation of EV charging stations in accordance with state and local requirements. This may include designated Electric Vehicle Charging Spaces (EVCS) that are required to have Electric Vehicle Supply Equipment (EVSE) installed as part of the project. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	LIGHT POLLUTION REDUCTION. The project shall comply with California Green Building Standards Code (CALGreen) Section 5.106.8 regarding Light Pollution Reduction for non-residential developments. Outdoor lighting systems shall be designed and installed to meet the minimum requirements of the California Energy Code for applicable Lighting Zones (0-4) and shall not exceed the allowable BUG (Backlight, Uplight, and Glare) ratings as specified in CALGreen Table 5.106.8 [N]. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	ACCESSIBLE PARKING SPACES. The project shall comply with California Building Code (CBC) Section 11B-208, ensuring

that accessible parking spaces are provided as required for non-residential developments. (B)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

FINAL WQMP SUBMITTAL. Submit a final WQMP, prepared using the applicable Mojave River Watershed Group Regulated WQMP Template, which includes all required or proposed revisions, addresses any comments provided on the draft WQMP, provides final designs for best management practices (BMPs), and includes calculations for BMP sizing. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

PERCOLATION TEST. The applicant shall provide percolation test data which are adequate to substantiate the hydrologic performance of all proposed basins, underground retention systems, drywells, or other features requiring percolation of surface water:

A. Projects shall provide site-specific percolation test data to substantiate the performance and effective drawdown time of all proposed surface retention basins.
B. Projects shall provide site-specific, depth-appropriate percolation test data for the proposed subsurface infiltration/retention system; and/or for any proposed drywells.
C. Percolations tests shall be performed in accordance with the procedures in Appendix A of the Riverside County Design Handbook for Low Impact Development Best Management Practices; available online at:

http://www.floodcontrol.co.riverside.ca.us/NPDES/LIDBMP.aspx (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

STORM WATER POLLUTION PREVENTION PLAN. The Project shall submit to the City for approval two (2) copies of a Storm Water Pollution Prevention Plan (SWPPP) as specified in the prevailing National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities issued by the California State Water Resources Control Board.
Prepare the SWPPP using or following the format of the most recent SWPPP Template in the Construction BMP Handbook prepared by the California Stormwater Quality Association (requires subscription); see:
https://www.casqa.org/resources/bmp-handbooks

NPDES: The Project shall enroll under the prevailing National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities issued by the California State Water Resources Control Board and pay applicable fees. The Project shall provide proof of such permit coverage including a copy of the Notice of Intent Receipt Letter and the project WDID No. to the City.
Alternatively, projects from 1 to 5 acres with an approved Rainfall Erosivity Waiver authorized by U.S. EPA Phase II regulations certifying to the State Water Resources Control Board that construction activity will occur only when the Rainfall Erosivity Factor is less than 5 (R in the Revised Universal Soil Loss Equation), shall provide a copy of the

project's Erosivity Waiver Certification and Waiver ID to the City.
NPDES-PERMIT TERMINATION: Upon completion of construction, the Project shall ensure that all disturbed areas are stabilized and all construction waste, equipment, and unnecessary temporary BMPs are removed from the site. In addition, the Project shall file a Notice of Termination (NOT) with the Lahontan Regional Water Board as required by the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

SWPPP IMPLEMENTATION. All of the requirements of the City-approved Storm Water Pollution Prevention Plan shall be implemented prior to the City's issuance of a grading permit, and shall be maintained until construction is complete and all disturbed areas are fully stabilized. (E)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

CFD ANNEXATION. The applicant shall annex the site into the Community Facilities District CFD-2022-1 (Non Residential Maintenance and Services).

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

LANDSCAPE AND IRRIGATION PLANS. The Developer shall submit three sets of landscape and irrigation plans including water budget calculations required application fees and completed landscape packet to the Building Division with the required application fees. Plans shall utilize xeriscape landscaping techniques in conformance with the Landscaping Ordinance. The number size type and configuration of plants approved by the City shall be maintained in accordance with the Development Code. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

TILT-UP WALLS AND FENCING PLANS. The Developer shall submit four sets of the proposed tilt-up walls/wrought iron fencing plans to the Building Division with the required application fees in accordance with the Development Code. (P)

COMPLETED **COMPLIED BY**
NOT IN COMPLIANCE

TILT-UP WALLS AND FENCING. The development is required to construct a 14-foot-high tilt-up screen wall along the north and east sides of the property. An 8-foot-high tilt-up screen wall shall be constructed along the east and south sides of the property, including a return wall located south of the building.

Mature evergreen trees (36 inch box in size) shall be planted within the landscape planter adjacent to the 8-foot-high tilt-up screen wall along the east side of the property to provide adequate screening for trucks. If trees cannot be installed in any portion of this planter due to the existing easement or site constraints, the 14-foot-high tilt-up screen wall shall be extended to provide proper screening in those areas.

Additionally, an 8-foot-high wrought-iron fence shall also be installed along the north side of the property.

All tilt-up walls and fencing shall be installed in compliance with the approved site plan. (P)

COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	ROOFTOP EQUIPMENT. All roofftop equipment shall be screened from view from the right-of-way and architecturally integrated into the design of the building. All roof-mounted mechanical equipment proposed on the roof shall be shown on a cross-section of the building, as well as a line of site study, evidencing that the equipment will be screened from view and will not be visible from the right-of-way. (P)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	TRASH ENCLOSURE. All trash enclosures shall be in conformance with Municipal Code Section 16.16.360 and City approved construction details. The enclosure shall be enclosed on three sides by a minimum six-foot high tilt-up and shall match the colors of the building. The enclosure shall have solid metal gates and a solid standing seam metal roof cover that serves to protect the refuse area from inclement weather, as well as metal mesh between the roof and wall to prevent unauthorized entry into the enclosure. (P)

CONDITIONS REQUIRED PRIOR TO CERTIFICATE OF OCCUPANCY

COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	UTILITY CLEARANCE AND C OF O. The Building Division will provide utility clearances on individual buildings after required permits and inspections and after the issuance of a Certificate of Occupancy on each building. Utility meters shall be permanently labeled. Uses in existing buildings currently served by utilities shall require issuance of a Certificate of Occupancy prior to establishment of the use. (B)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	DEVELOPMENT FEES. The Developer shall pay required development fees as follows: A. Development Impact Fees (B) B. Utility Fees (E)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	AS BUILT PLANS. The Developer shall provide as built plans. (E)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	PUBLIC IMPROVEMENTS. All public improvements shall be completed by the Developer and approved by the Engineering Department. Existing public improvements determined to be unsuitable by the City Engineer shall be removed and replaced. (E)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	EXECUTED AND RECORDED WQMP MAINTENANCE AGREEMENT. The WQMP Maintenance Agreement: Covenant and Agreement Regarding Water Quality Management Plan and Stormwater Best Management Practices Transfer, Access, and Maintenance, must be (1) prepared using the WQMP Maintenance Agreement Template provided as Attachment A to the City of Hesperia WQMP Templates, and (2) the complete WQMP Maintenance Agreement, with the Property Owners notarized signature(s) and suitable for recordation by the City, must be received before the City will authorize the final inspection or issue a Certificate of Occupancy. (E)

COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	WQMP PERMIT. The Property Owner shall apply for a City WQMP Permit with the Building and Safety Department and pay the applicable permit fees. The WQMP Permit shall be renewed annually. To comply with the WQMP Permit, the Property Owner shall certify on an annual basis that all of the post-construction best management practices (BMPs) described in the approved project WQMP have been inspected and maintained as specified and required by the BMP Inspection and Maintenance Form and Operation and Maintenance Plan. The Property Owner shall provide proof of the WQMP Permit before the City will issue a Certificate of Occupancy. (E)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	ON SITE IMPROVEMENTS. All on site improvements as recorded in these conditions, and as shown on the approved site plan shall be completed in accordance with all applicable Title 16 requirements. The building shall be designed consistent with the design shown upon the approved materials board and color exterior building elevations identified as Exhibit A. Any exceptions shall be approved by the Director of Development Services. (P)
COMPLETED NOT IN COMPLIANCE	**COMPLIED BY**	LANDSCAPING/IRRIGATION. The Developer shall install the landscaping and irrigation as required by the Planning Division. (P)

NOTICE TO DEVELOPER: IF YOU NEED ADDITIONAL INFORMATION OR ASSISTANCE REGARDING THESE CONDITIONS, PLEASE CONACT THE APPROPRIATE DIVISION LISTED BELOW:

(B) Building Division	**947-1300**
(E) Engineering Division	**947-1476**
(F) Fire Prevention Division	**947-1603**
(P) Planning Division	**947-1200**
(RPD) Hesperia Recreation and Park District	**244-5488**